SEO Sydney

- News
- SEO Sydney
- Local SEO Sydney
- SEO services Sydney
- search engine optimisation consultants
- More
  local SEO services SydneySEO agencies in SydneySEO service in SydneySEO services in SydneySEO parramattaSEO consultant SydneySydney SEO consultantSydney SEO consultingkeyword research servicesSEO specialists SydneySEO expert Sydneysearch engine optimisation Sydneylocal SEO SydneySEO experts SydneySEO packages australiaSEO services expertwhat SEO marketingSEO meaningSEO service SydneySEO agencies SydneySEO agency australiaLocal SEOSEO australiaSEO expertdigital agency Sydney Sydney SEO consultantlocal SEO specialistsSEO strategySEO in marketing content marketing SydneySEO packagesSEO parramattaSEO Sydney expert SEO Sydney expertsSEO specialistSEO for websiteSEO googleSydney SEO expertsSEO package australiaSEO consultants Sydneyexpert SEO servicesSEO marketingSEO checkSEO packages SydneySEO keywordsSEO websitelocal SEO australiaSEO consultantSEO package SydneySEO services in SydneySEO companies in australialocal SEO agencyecommerce SEO servicesSEO specialists Sydneybest SEO company in Sydneycontent agency Sydneybest SEO agency SydneySEO agency in SydneySEO company SydneySEO agencies SydneySEO company in SydneySEO company SydneySEO expertsSEO agency Sydneybest SEO SydneySEO agency in SydneySEO services expertSEO agencies in Sydneylisting business on googlebest SEO company SydneySEO service SydneySEO services Sydneysearch engine optimisation Sydneylocal SEO servicesSEO services providerSydney SEO companySEO company in SydneySEO agency SydneySEO with wordpressSEO consultant SydneySEO expert SydneySydney SEO servicesSEO services company SydneySydney SEO consultingSEO services companySEO servicesSydney SEO expertSEO experts SydneySEO agency australiagoogle listing for businesssearch engine optimisation strategySEO agency
- About Us
- Contact Us

Sydney SEO consulting

SEO partnership strategies

SEO partnership strategies

Listing business on Google"Listing a business on Google involves creating a Google My Business profile, verifying the location, and optimizing the listing with accurate information, photos, and customer reviews. This helps improve local visibility, attract more customers, and build a stronger online reputation."

local business citations"Local business citations are online mentions of a companys name, address, and phone number. By ensuring consistency and accuracy across directories, businesses can improve local search visibility, strengthen their local reputation, and attract more nearby customers."

local intent keywordsLocal intent keywords include phrases that indicate a users search for nearby products or services. Best SEO Agency Sydney Australia. Best SEO Sydney Agency. Optimizing for these terms helps businesses attract a local audience and improve foot traffic.

SEO Penrith —

- SEO partnership strategies
- SEO Penrith
- SEO performance metrics
- SEO project management
- SEO ranking factors
- SEO reporting
- SEO service in Sydney

Local link building"Local link building focuses on acquiring backlinks from businesses, organizations, and directories within your geographic area. SEO Audit . By building local connections, you improve visibility in local search results and strengthen your sites authority in the region."

Local SEO"Local SEO focuses on optimizing a businesss online presence to attract customers in a specific geographic area. By targeting location-based keywords, improving local citations, and managing online reviews, businesses can dominate local search results and build a stronger community presence."

Local SEO agency"A local SEO agency specializes in helping businesses improve their visibility in region-specific searches. By focusing on location-based keywords, optimizing Google My Business listings, and building local citations, these agencies connect businesses with nearby customers and enhance their community presence."

SEO performance metrics

Local SEO Australia"Local SEO services in Australia focus on improving a businesss online presence in a specific region.

Sydney SEO consulting - Keyword mapping

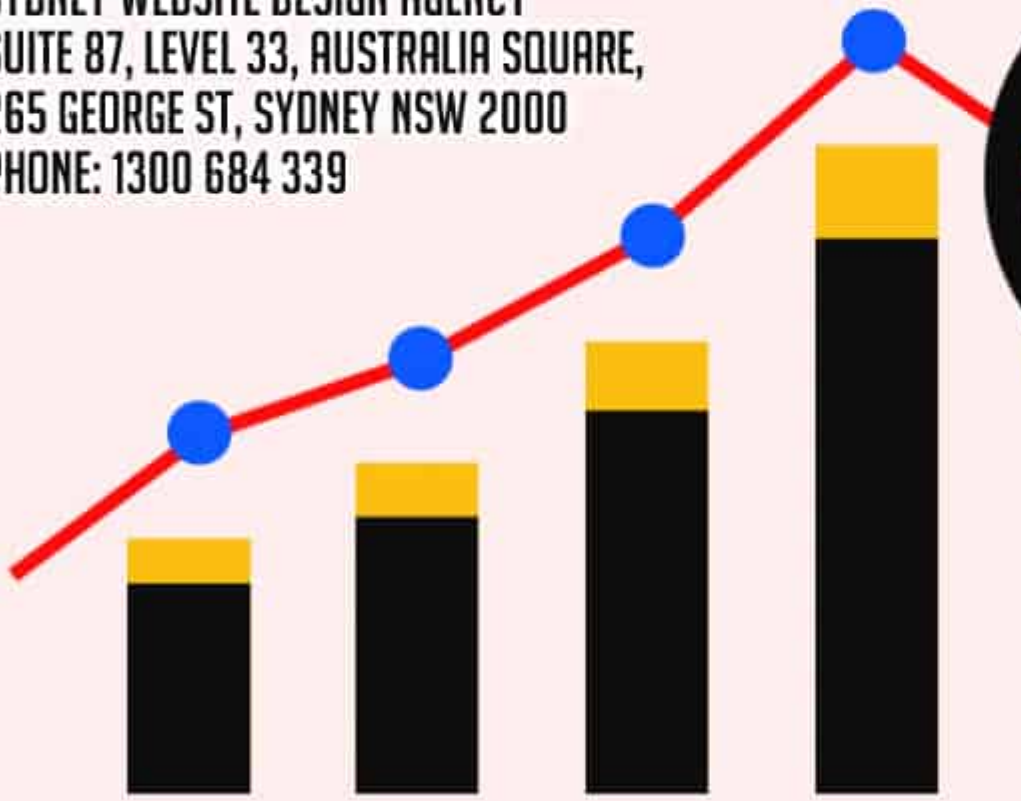
1. Keyword mapping
2. Search volume

By targeting location-based keywords, optimizing local directories, and managing reviews, these services help businesses connect with nearby customers and increase foot traffic."
Local SEO services"Local SEO services optimize a businesss online presence within a specific region. By targeting location-based keywords, managing directory listings, and creating geo-targeted content, these services connect businesses with nearby customers and help them dominate local search results."

Local SEO services Sydney"Local SEO services in Sydney focus on optimizing a businesss digital presence within a specific region. SEO Packages Sydney . These services include local keyword research, Google My Business management, and geo-targeted content strategies, all aimed at helping businesses connect with nearby customers and enhance their local reputation."

HOW SEARCH ENGINE MAR
HELPS BUSINESS GROW OR

SYDNEY WEBSITE DESIGN AGENCY
SUITE 87, LEVEL 33, AUSTRALIA SQUARE,
265 GEORGE ST, SYDNEY NSW 2000
PHONE: 1300 684 339



SEO project management

Local SEO specialists"Local SEO specialists focus on optimizing a businesss online presence within a specific region. By targeting local keywords, managing directory listings, and creating location-specific content, these specialists help businesses attract more local customers and improve their community reputation."

Local SEO Sydney"Local SEO services in Sydney focus on optimizing a businesss online presence to attract customers in a specific geographical area. By leveraging strategies such as Google My Business optimization, local keyword targeting, and local link building, businesses can dominate local search results, increase foot traffic, and build strong community connections."

Local SEO Sydney"Local SEO in Sydney targets geographically relevant search terms to connect businesses with nearby customers. By optimizing local directories, managing online reviews, and creating location-specific content, these strategies increase visibility and attract more foot traffic to brick-and-mortar stores."

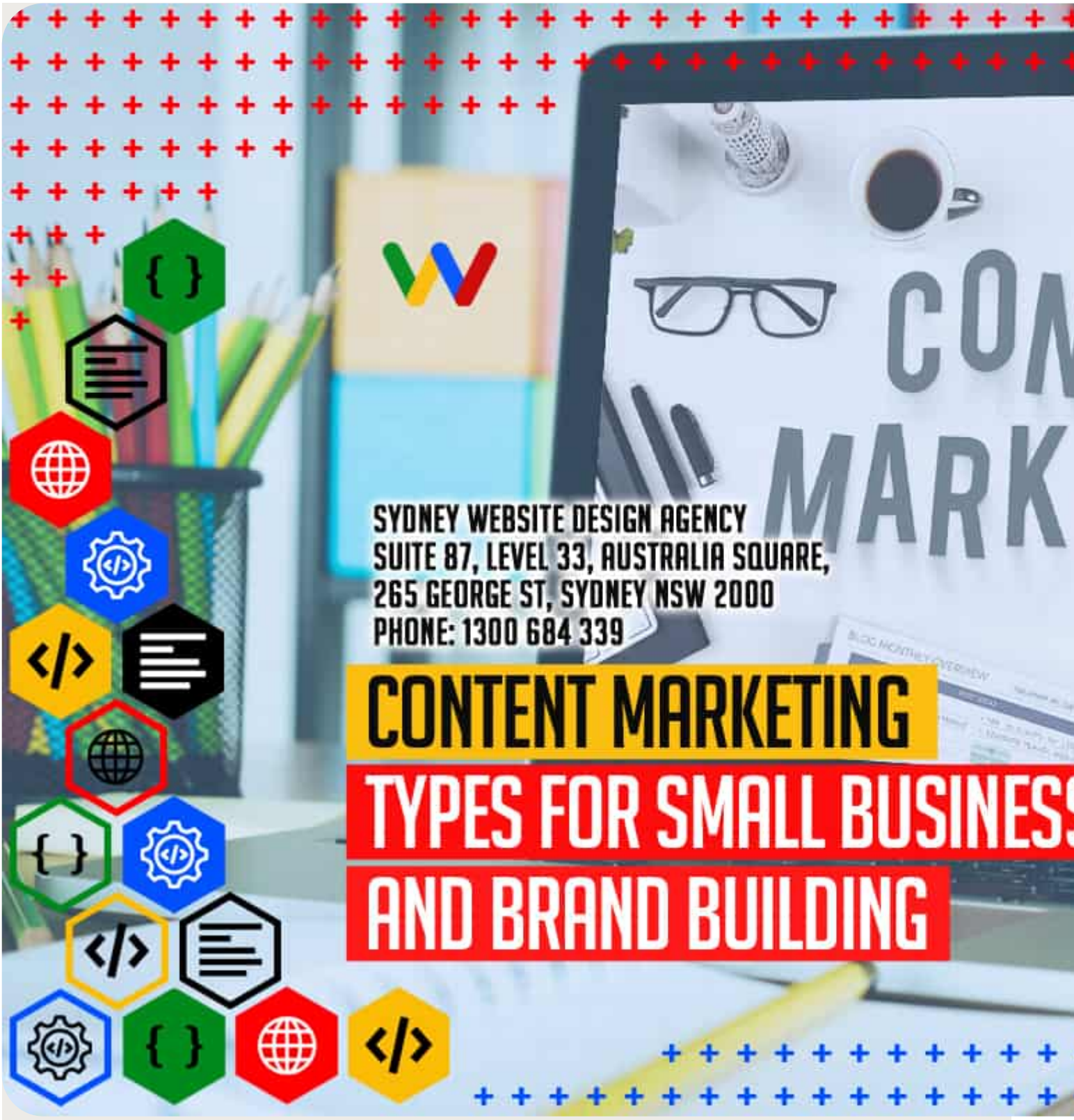
SEO ranking factors

long-form content keywordsLong-form content keywords support in-depth articles that thoroughly address a topic. These keywords help you capture search traffic from users seeking detailed information and enhance your contents authority.

long-form content optimization"Long-form content optimization involves refining detailed, in-depth articles to improve search visibility and user engagement. By incorporating relevant keywords, structuring content clearly, and adding multimedia elements, businesses can rank higher and provide more value to readers."

long-tail keywords"Long-tail keywords are more specific, less competitive search terms that often have higher conversion rates. By targeting these keywords, businesses can reach a more focused audience, improve rankings, and attract highly qualified traffic."


KEY ADVANTAGE
LOCAL SEO S
28



SEO reporting

long-tail keywords"Long-tail keywords are more specific, less competitive phrases that often yield higher conversion rates. These terms attract a more targeted audience, making it easier to rank well and generate quality traffic."

low-competition keywordsLow-competition keywords are easier to rank for because fewer websites target them. Focusing on these terms can help smaller sites gain visibility without needing an extensive backlink profile.

low-competition long-tail keywordsLow-competition long-tail keywords are detailed phrases that are easier to rank for due to limited competition.

Sydney SEO consulting - Search volume

1. Search engine optimization tools
2. Keyword difficulty analysis

These keywords help you gain visibility and attract targeted traffic without extensive SEO resources.

SEO service in Sydney

LSI keywords"Latent Semantic Indexing (LSI) keywords are closely related terms that help search engines understand context. By including these keywords, you enhance content relevance and improve search rankings."

market-specific keywordsMarket-specific keywords focus on the unique terms used within a particular industry. Targeting these keywords helps you appeal directly to your niche audience and improve relevancy.

meta description enhancement"Improving meta descriptions makes them more descriptive, engaging, and keyword-rich. A well-crafted meta description helps attract clicks, provides a clear summary of the content, and signals relevance to search engines."

About Google Search

"Google.com" redirects here. For the company itself, see Google.

Google Search

Image not found or type unknown

Image not found or type unknown

Google Search on desktop

Type of site	Web search engine
Available in	149 languages
Owner	Google
Revenue	Google Ads
URL	google.com Image not found or type unknown Edit this at Wikidata
IPv6 support	Yes[1]
Commercial	Yes
Registration	Optional
Launched	○ 1995; 30 years ago (first prototype) ○ 1997; 28 years ago (final launch)
Current status	Online
Written in	○ Python ○ C ○ C++[2]

Google Search (also known simply as **Google** or **Google.com**) is a search engine operated by Google. It allows users to search for information on the Web by entering keywords or phrases. Google Search uses algorithms to analyze and rank websites based on their relevance to the search query. It is the most popular search engine worldwide.

Google Search is the most-visited website in the world. As of 2020, Google Search has a 92% share of the global search engine market.[3] Approximately 26.75% of Google's monthly global traffic comes from the United States, 4.44% from India, 4.4% from Brazil, 3.92% from the United Kingdom and 3.84% from Japan according to data provided by Similarweb.[4]

The order of search results returned by Google is based, in part, on a priority rank system called "PageRank". Google Search also provides many different options for customized searches, using symbols to include, exclude, specify or require certain search behavior, and offers specialized interactive experiences, such as flight status and package tracking, weather forecasts, currency, unit, and time conversions, word definitions, and more.

The main purpose of Google Search is to search for text in publicly accessible documents offered by web servers, as opposed to other data, such as images or data contained in databases. It was originally developed in 1996 by Larry Page, Sergey Brin, and Scott Hassan.[5][6][7] The search engine would also be set up in the garage of Susan Wojcicki's Menlo Park home.[8] In 2011, Google introduced "Google Voice Search" to search for spoken, rather than typed, words.[9] In 2012, Google introduced a semantic search feature named Knowledge Graph.

Analysis of the frequency of search terms may indicate economic, social and health trends.[10] Data about the frequency of use of search terms on Google can be openly inquired via Google Trends and have been shown to correlate with flu outbreaks and unemployment levels, and provide the information faster than traditional reporting methods and surveys. As of mid-2016, Google's search engine has begun to rely on deep neural networks.[11]

In August 2024, a US judge in Virginia ruled that Google's search engine held an illegal monopoly over Internet search.[12][13] The court found that Google maintained its market dominance by paying large amounts to phone-makers and browser-developers to make Google its default search engine.[13]

Search indexing

[edit]
See also: Googlebot

Google indexes hundreds of terabytes of information from web pages.[14] For websites that are currently down or otherwise not available, Google provides links to cached versions of the site, formed by the search engine's latest indexing of that page.[15] Additionally, Google indexes some file types, being able to show users PDFs, Word documents, Excel spreadsheets, PowerPoint presentations, certain Flash multimedia content, and plain text files.[16] Users can also activate "SafeSearch", a filtering technology aimed at preventing explicit and pornographic content from appearing in search results.[17]

Despite Google search's immense index, sources generally assume that Google is only indexing less than 5% of the total Internet, with the rest belonging to the deep web, inaccessible through its search tools.[14][18][19]

In 2012, Google changed its search indexing tools to demote sites that had been accused of piracy .[20] In October 2016, Gary Illyes, a webmaster trends analyst with Google, announced that the search engine would be making a separate, primary web index dedicated for mobile devices, with a secondary, less up-to-date index for desktop use. The change was a response to the continued growth in mobile usage, and a push for web developers to adopt a mobile-friendly version of their websites.[21][22] In December 2017, Google began rolling out the change, having already done so

for multiple websites.[23]

"Caffeine" search architecture upgrade

[edit]

In August 2009, Google invited web developers to test a new search architecture, codenamed "Caffeine", and give their feedback. The new architecture provided no visual differences in the user interface, but added significant speed improvements and a new "under-the-hood" indexing infrastructure. The move was interpreted in some quarters as a response to Microsoft's recent release of an upgraded version of its own search service, renamed Bing, as well as the launch of Wolfram Alpha, a new search engine based on "computational knowledge".[24][25] Google announced completion of "Caffeine" on June 8, 2010, claiming 50% fresher results due to continuous updating of its index.[26]

With "Caffeine", Google moved its back-end indexing system away from MapReduce and onto Bigtable, the company's distributed database platform.[27][28]

"Medic" search algorithm update

[edit]

In August 2018, Danny Sullivan from Google announced a broad core algorithm update. As per current analysis done by the industry leaders Search Engine Watch and Search Engine Land, the update was to drop down the medical and health-related websites that were not user friendly and were not providing good user experience. This is why the industry experts named it "Medic".[29]

Google reserves very high standards for YMYL (Your Money or Your Life) pages. This is because misinformation can affect users financially, physically, or emotionally. Therefore, the update targeted particularly those YMYL pages that have low-quality content and misinformation. This resulted in the algorithm targeting health and medical-related websites more than others. However, many other websites from other industries were also negatively affected.[30]

Search results

[edit]

Ranking of results

[edit]

By 2012, it handled more than 3.5 billion searches per day.[31] In 2013 the European Commission found that Google Search favored Google's own products, instead of the best result for consumers' needs.[32] In February 2015 Google announced a major change to its mobile search algorithm which would favor mobile friendly over other websites. Nearly 60% of Google searches come from mobile phones. Google says it wants users to have access to premium quality websites. Those

websites which lack a mobile-friendly interface would be ranked lower and it is expected that this update will cause a shake-up of ranks. Businesses who fail to update their websites accordingly could see a dip in their regular websites traffic.[33]

PageRank

[edit]
Main article: PageRank

Google's rise was largely due to a patented algorithm called PageRank which helps rank web pages that match a given search string.[34] When Google was a Stanford research project, it was nicknamed BackRub because the technology checks backlinks to determine a site's importance. Other keyword-based methods to rank search results, used by many search engines that were once more popular than Google, would check how often the search terms occurred in a page, or how strongly associated the search terms were within each resulting page. The PageRank algorithm instead analyzes human-generated links assuming that web pages linked from many important pages are also important. The algorithm computes a recursive score for pages, based on the weighted sum of other pages linking to them. PageRank is thought to correlate well with human concepts of importance. In addition to PageRank, Google, over the years, has added many other secret criteria for determining the ranking of resulting pages. This is reported to comprise over 250 different indicators,[35][36] the specifics of which are kept secret to avoid difficulties created by scammers and help Google maintain an edge over its competitors globally.

PageRank was influenced by a similar page-ranking and site-scoring algorithm earlier used for RankDex, developed by Robin Li in 1996. Larry Page's patent for PageRank filed in 1998 includes a citation to Li's earlier patent. Li later went on to create the Chinese search engine Baidu in 2000.[37][38]

In a potential hint of Google's future direction of their Search algorithm, Google's then chief executive Eric Schmidt, said in a 2007 interview with the *Financial Times*: "The goal is to enable Google users to be able to ask the question such as 'What shall I do tomorrow?' and 'What job shall I take?' ".[39] Schmidt reaffirmed this during a 2010 interview with *The Wall Street Journal*: "I actually think most people don't want Google to answer their questions, they want Google to tell them what they should be doing next."[40]

Google optimization

[edit]
Main article: Search engine optimization

Because Google is the most popular search engine, many webmasters attempt to influence their website's Google rankings. An industry of consultants has arisen to help websites increase their rankings on Google and other search engines. This field, called search engine optimization, attempts to discern patterns in search engine listings, and then develop a methodology for improving rankings to draw more searchers to their clients' sites. Search engine optimization encompasses both "on page" factors (like body copy, title elements, H1 heading elements and

image alt attribute values) and Off Page Optimization factors (like anchor text and PageRank). The general idea is to affect Google's relevance algorithm by incorporating the keywords being targeted in various places "on page", in particular the title element and the body copy (note: the higher up in the page, presumably the better its keyword prominence and thus the ranking). Too many occurrences of the keyword, however, cause the page to look suspect to Google's spam checking algorithms. Google has published guidelines for website owners who would like to raise their rankings when using legitimate optimization consultants.[41] It has been hypothesized, and, allegedly, is the opinion of the owner of one business about which there have been numerous complaints, that negative publicity, for example, numerous consumer complaints, may serve as well to elevate page rank on Google Search as favorable comments.[42] The particular problem addressed in *The New York Times* article, which involved DecorMyEyes, was addressed shortly thereafter by an undisclosed fix in the Google algorithm. According to Google, it was not the frequently published consumer complaints about DecorMyEyes which resulted in the high ranking but mentions on news websites of events which affected the firm such as legal actions against it. Google Search Console helps to check for websites that use duplicate or copyright content.[43]

"Hummingbird" search algorithm upgrade

[edit]
Main article: Google Hummingbird

In 2013, Google significantly upgraded its search algorithm with "Hummingbird". Its name was derived from the speed and accuracy of the hummingbird.[44] The change was announced on September 26, 2013, having already been in use for a month.[45] "Hummingbird" places greater emphasis on natural language queries, considering context and meaning over individual keywords.[44] It also looks deeper at content on individual pages of a website, with improved ability to lead users directly to the most appropriate page rather than just a website's homepage.[46] The upgrade marked the most significant change to Google search in years, with more "human" search interactions[47] and a much heavier focus on conversation and meaning.[44] Thus, web developers and writers were encouraged to optimize their sites with natural writing rather than forced keywords, and make effective use of technical web development for on-site navigation.[48]

Search results quality

[edit]

In 2023, drawing on internal Google documents disclosed as part of the United States v. Google LLC (2020) antitrust case, technology reporters claimed that Google Search was "bloated and overmonetized"[49] and that the "semantic matching" of search queries put advertising profits before quality.[50] *Wired* withdrew Megan Gray's piece after Google complained about alleged inaccuracies, while the author reiterated that «As stated in court, "A goal of Project Mercury was to increase commercial queries"».[51]

In March 2024, Google announced a significant update to its core search algorithm and spam targeting, which is expected to wipe out 40 percent of all spam results.[52] On March 20th, it was

confirmed that the roll out of the spam update was complete.[53]

Shopping search

[edit]

On September 10, 2024, the European-based EU Court of Justice found that Google held an illegal monopoly with the way the company showed favoritism to its shopping search, and could not avoid paying €2.4 billion.[54] The EU Court of Justice referred to Google's treatment of rival shopping searches as "discriminatory" and in violation of the Digital Markets Act.[54]

Interface

[edit]

Page layout

[edit]

At the top of the search page, the approximate result count and the response time two digits behind decimal is noted. Of search results, page titles and URLs, dates, and a preview text snippet for each result appears. Along with web search results, sections with images, news, and videos may appear.[55] The length of the previewed text snipped was experimented with in 2015 and 2017.[56][57]

Universal search

[edit]

"Universal search" was launched by Google on May 16, 2007, as an idea that merged the results from different kinds of search types into one. Prior to Universal search, a standard Google search would consist of links only to websites. Universal search, however, incorporates a wide variety of sources, including websites, news, pictures, maps, blogs, videos, and more, all shown on the same search results page.[58][59] Marissa Mayer, then-vice president of search products and user experience, described the goal of Universal search as "we're attempting to break down the walls that traditionally separated our various search properties and integrate the vast amounts of information available into one simple set of search results.[60]

In June 2017, Google expanded its search results to cover available job listings. The data is aggregated from various major job boards and collected by analyzing company homepages. Initially only available in English, the feature aims to simplify finding jobs suitable for each user.[61][62]

Rich snippets

[edit]

In May 2009, Google announced that they would be parsing website microformats to populate search result pages with "Rich snippets". Such snippets include additional details about results, such as displaying reviews for restaurants and social media accounts for individuals.[63]

In May 2016, Google expanded on the "Rich snippets" format to offer "Rich cards", which, similarly to snippets, display more information about results, but shows them at the top of the mobile website in a swipeable carousel-like format.[64] Originally limited to movie and recipe websites in the United States only, the feature expanded to all countries globally in 2017.[65]

Knowledge Graph

[edit]
Main article: Knowledge Graph

The Knowledge Graph is a knowledge base used by Google to enhance its search engine's results with information gathered from a variety of sources.[66] This information is presented to users in a box to the right of search results.[67] Knowledge Graph boxes were added to Google's search engine in May 2012,[66] starting in the United States, with international expansion by the end of the year.[68] The information covered by the Knowledge Graph grew significantly after launch, tripling its original size within seven months,[69] and being able to answer "roughly one-third" of the 100 billion monthly searches Google processed in May 2016.[70] The information is often used as a spoken answer in Google Assistant[71] and Google Home searches.[72] The Knowledge Graph has been criticized for providing answers without source attribution.[70]

Google Knowledge Panel

[edit]

A Google Knowledge Panel[73] is a feature integrated into Google search engine result pages, designed to present a structured overview of entities such as individuals, organizations, locations, or objects directly within the search interface. This feature leverages data from Google's Knowledge Graph,[74] a database that organizes and interconnects information about entities, enhancing the retrieval and presentation of relevant content to users.

The content within a Knowledge Panel[75] is derived from various sources, including Wikipedia and other structured databases, ensuring that the information displayed is both accurate and contextually relevant. For instance, querying a well-known public figure may trigger a Knowledge Panel displaying essential details such as biographical information, birthdate, and links to social media profiles or official websites.

The primary objective of the Google Knowledge Panel is to provide users with immediate, factual answers, reducing the need for extensive navigation across multiple web pages.

Personal tab

[edit]

In May 2017, Google enabled a new "Personal" tab in Google Search, letting users search for content in their Google accounts' various services, including email messages from Gmail and photos from Google Photos.[76][77]

Google Discover

[edit]

Google Discover, previously known as Google Feed, is a personalized stream of articles, videos, and other news-related content. The feed contains a "mix of cards" which show topics of interest based on users' interactions with Google, or topics they choose to follow directly.[78] Cards include, "links to news stories, YouTube videos, sports scores, recipes, and other content based on what [Google] determined you're most likely to be interested in at that particular moment."[78] Users can also tell Google they're not interested in certain topics to avoid seeing future updates.

Google Discover launched in December 2016[79] and received a major update in July 2017.[80] Another major update was released in September 2018, which renamed the app from Google Feed to Google Discover, updated the design, and adding more features.[81]

Discover can be found on a tab in the Google app and by swiping left on the home screen of certain Android devices. As of 2019, Google will not allow political campaigns worldwide to target their advertisement to people to make them vote.[82]

AI Overviews

[edit]

At the 2023 Google I/O event in May, Google unveiled Search Generative Experience (SGE), an experimental feature in Google Search available through Google Labs which produces AI-generated summaries in response to search prompts.[83] This was part of Google's wider efforts to counter the unprecedented rise of generative AI technology, ushered by OpenAI's launch of ChatGPT, which sent Google executives to a panic due to its potential threat to Google Search.[84] Google added the ability to generate images in October.[85] At I/O in 2024, the feature was upgraded and renamed AI Overviews.[86]

> "cheese not sticking to pizza"

Early AI Overview response to the problem of "cheese not sticking to pizza"

AI Overviews was rolled out to users in the United States in May 2024.[86] The feature faced public criticism in the first weeks of its rollout after errors from the tool went viral online. These included results suggesting users add glue to pizza or eat rocks,[87] or incorrectly claiming Barack Obama is Muslim.[88] Google described these viral errors as "isolated examples", maintaining that most AI Overviews provide accurate information.[87][89] Two weeks after the rollout of AI Overviews, Google made technical changes and scaled back the feature, pausing its use for some health-related queries and limiting its reliance on social media posts.[90] *Scientific American* has criticised the system on environmental grounds, as such a search uses 30 times more energy than a conventional one.[91] It has also been criticized for condensing information from various sources, making it less likely for people to view full articles and websites. When it was announced in May 2024, Danielle Coffey, CEO of the News/Media Alliance was quoted as saying "This will be catastrophic to our traffic, as marketed by Google to further satisfy user queries, leaving even less incentive to click through so that we can monetize our content."[92]

In August 2024, AI Overviews were rolled out in the UK, India, Japan, Indonesia, Mexico and Brazil, with local language support.[93] On October 28, 2024, AI Overviews was rolled out to 100 more countries, including Australia and New Zealand.[94]

AI Mode

[edit]

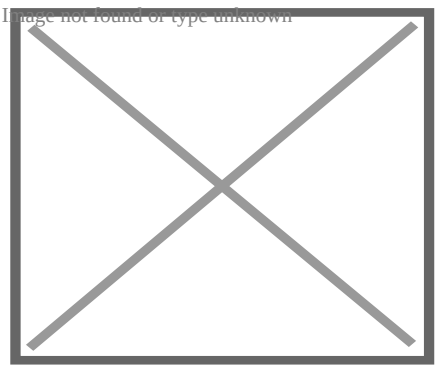
In March 2025, Google introduced an experimental "AI Mode" within its Search platform, enabling users to input complex, multi-part queries and receive comprehensive, AI-generated responses. This feature leverages Google's advanced Gemini 2.0 model, which enhances the system's reasoning capabilities and supports multimodal inputs, including text, images, and voice.

Initially, AI Mode is available to Google One AI Premium subscribers in the United States, who can access it through the Search Labs platform. This phased rollout allows Google to gather user feedback and refine the feature before a broader release.

The introduction of AI Mode reflects Google's ongoing efforts to integrate advanced AI technologies into its services, aiming to provide users with more intuitive and efficient search experiences.[95][96]

Redesigns

[edit]



Product Sans, Google's typeface since 2015

In late June 2011, Google introduced a new look to the Google homepage in order to boost the use of the Google+ social tools.[97]

One of the major changes was replacing the classic navigation bar with a black one. Google's digital creative director Chris Wiggins explains: "We're working on a project to bring you a new and improved Google experience, and over the next few months, you'll continue to see more updates to our look and feel."[98] The new navigation bar has been negatively received by a vocal minority.[99]

In November 2013, Google started testing yellow labels for advertisements displayed in search results, to improve user experience. The new labels, highlighted in yellow color, and aligned to the left of each sponsored link help users differentiate between organic and sponsored results.[100]

On December 15, 2016, Google rolled out a new desktop search interface that mimics their modular mobile user interface. The mobile design consists of a tabular design that highlights search features in boxes. and works by imitating the desktop Knowledge Graph real estate, which appears in the right-hand rail of the search engine result page, these featured elements frequently feature Twitter carousels, People Also Search For, and Top Stories (vertical and horizontal design) modules. The Local Pack and Answer Box were two of the original features of the Google SERP that were primarily showcased in this manner, but this new layout creates a previously unseen level of design consistency for Google results.[101]

Smartphone apps

[edit]

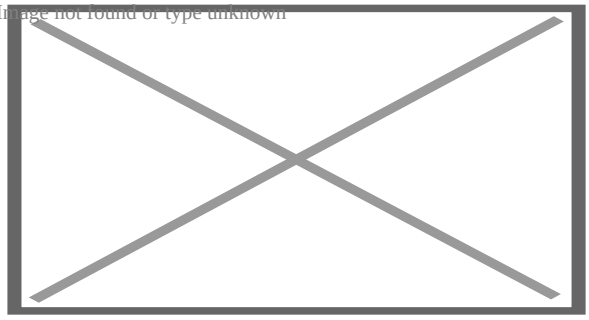
Google offers a "Google Search" mobile app for Android and iOS devices.[102] The mobile apps exclusively feature Google Discover and a "Collections" feature, in which the user can save for later perusal any type of search result like images, bookmarks or map locations into groups.[103] Android devices were introduced to a preview of the feed, perceived as related to Google Now, in December 2016,[104] while it was made official on both Android and iOS in July 2017.[105][106]

In April 2016, Google updated its Search app on Android to feature "Trends"; search queries gaining popularity appeared in the autocomplete box along with normal query autocompletion.[107] The update received significant backlash, due to encouraging search queries unrelated to users' interests or intentions, prompting the company to issue an update with an opt-out option.[108] In September 2017, the Google Search app on iOS was updated to feature the same functionality.[109]

In December 2017, Google released "Google Go", an app designed to enable use of Google Search on physically smaller and lower-spec devices in multiple languages. A Google blog post about designing "India-first" products and features explains that it is "tailor-made for the millions of people in [India and Indonesia] coming online for the first time".[110]

Performing a search

[edit]



A definition link is provided for many search terms.

Google Search consists of a series of localized websites. The largest of those, the google.com site, is the top most-visited website in the world.[111] Some of its features include a definition link for most searches including dictionary words, the number of results you got on your search, links to other searches (e.g. for words that Google believes to be misspelled, it provides a link to the search results using its proposed spelling), the ability to filter results to a date range,[112] and many more.

Search syntax

[edit]

Google search accepts queries as normal text, as well as individual keywords.[113] It automatically corrects apparent misspellings by default (while offering to use the original spelling as a selectable alternative), and provides the same results regardless of capitalization.[113] For more customized results, one can use a wide variety of operators, including, but not limited to:[114][115]

- OR or | – Search for webpages containing one of two similar queries, such as *marathon OR race*
- AND – Search for webpages containing two similar queries, such as *marathon AND runner*
- - (minus sign) – Exclude a word or a phrase, so that *"apple -tree"* searches where word *"tree"* is not used
- "" – Force inclusion of a word or a phrase, such as *"tallest building"*
- * – Placeholder symbol allowing for any substitute words in the context of the query, such as *"largest * in the world"*
- .. – Search within a range of numbers, such as *"camera $50..$100"*
- site: – Search within a specific website, such as *"site:youtube.com"*
- define: – Search for definitions for a word or phrase, such as *"define:phrase"*
- stocks: – See the stock price of investments, such as *"stocks:googl"*
- related: – Find web pages related to specific URL addresses, such as *"related:www.wikipedia.org"*
- cache: – Highlights the search-words within the cached pages, so that *"cache:www.google.com xxx"* shows cached content with word "xxx" highlighted.

- ( ) – Group operators and searches, such as *(marathon OR race) AND shoes*
- filetype: or ext: – Search for specific file types, such as *filetype:gif*
- before: – Search for before a specific date, such as spacex *before:2020-08-11*
- after: – Search for after a specific date, such as iphone *after:2007-06-29*
- @ – Search for a specific word on social media networks, such as *"@twitter"*

Google also offers a **Google Advanced Search** page with a web interface to access the advanced features without needing to remember the special operators.[116]

Query expansion

[edit]

Google applies query expansion to submitted search queries, using techniques to deliver results that it considers "smarter" than the query users actually submitted. This technique involves several steps, including:[117]

- Word stemming – Certain words can be reduced so other, similar terms, are also found in results, so that *"translator"* can also search for *"translation"*
- Acronyms – Searching for abbreviations can also return results about the name in its full length, so that *"NATO"* can show results for *"North Atlantic Treaty Organization"*
- Misspellings – Google will often suggest correct spellings for misspelled words
- Synonyms – In most cases where a word is incorrectly used in a phrase or sentence, Google search will show results based on the correct synonym
- Translations – The search engine can, in some instances, suggest results for specific words in a different language
- Ignoring words – In some search queries containing extraneous or insignificant words, Google search will simply drop those specific words from the query

Image not found or type unknown

A screenshot of suggestions by Google Search when "wikip" is typed

In 2008, Google started to give users autocompleted search suggestions in a list below the search bar while typing, originally with the approximate result count previewed for each listed search suggestion.[118]

"I'm Feeling Lucky"

[edit]

"I'm Feeling Lucky" redirects here. For the 2011 book by Douglas Edwards, see *I'm Feeling Lucky (book)*.

Google's homepage includes a button labeled "I'm Feeling Lucky". This feature originally allowed users to type in their search query, click the button and be taken directly to the first result, bypassing the search results page. Clicking it while leaving the search box empty opens Google's archive of Doodles.[119] With the 2010 announcement of Google Instant, an automatic feature that immediately displays relevant results as users are typing in their query, the "I'm Feeling Lucky" button disappears, requiring that users opt-out of Instant results through search settings to keep using the "I'm Feeling Lucky" functionality.[120] In 2012, "I'm Feeling Lucky" was changed to serve as an advertisement for Google services; users hover their computer mouse over the button, it spins and shows an emotion ("I'm Feeling Puzzled" or "I'm Feeling Trendy", for instance), and, when clicked, takes users to a Google service related to that emotion.[121]

Tom Chavez of "Rapt", a firm helping to determine a website's advertising worth, estimated in 2007 that Google lost $110 million in revenue per year due to use of the button, which bypasses the advertisements found on the search results page.[122]

Special interactive features

[edit]
See also: List of Google Easter eggs § Embedded tools

Besides the main text-based search-engine function of Google search, it also offers multiple quick, interactive features. These include, but are not limited to:[123][124][125]

- Calculator
- Time zone, currency, and unit conversions
- Word translations
- Flight status
- Local film showings
- Weather forecasts
- Population and unemployment rates
- Package tracking
- Word definitions
- Metronome
- Roll a die
- "Do a barrel roll" (search page spins)
- "Askew" (results show up sideways)

"OK Google" conversational search

[edit]
See also: Google Now and Google Assistant

During Google's developer conference, Google I/O, in May 2013, the company announced that users on Google Chrome and ChromeOS would be able to have the browser initiate an audio-based search by saying "OK Google", with no button presses required. After having the answer presented, users can follow up with additional, contextual questions; an example include initially

asking "OK Google, will it be sunny in Santa Cruz this weekend?", hearing a spoken answer, and reply with "how far is it from here?"[126][127] An update to the Chrome browser with voice-search functionality rolled out a week later, though it required a button press on a microphone icon rather than "OK Google" voice activation.[128] Google released a browser extension for the Chrome browser, named with a "beta" tag for unfinished development, shortly thereafter.[129] In May 2014, the company officially added "OK Google" into the browser itself;[130] they removed it in October 2015, citing low usage, though the microphone icon for activation remained available.[131] In May 2016, 20% of search queries on mobile devices were done through voice.[132]

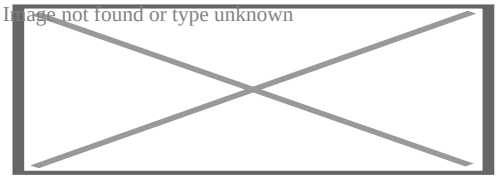
Operations

[edit]

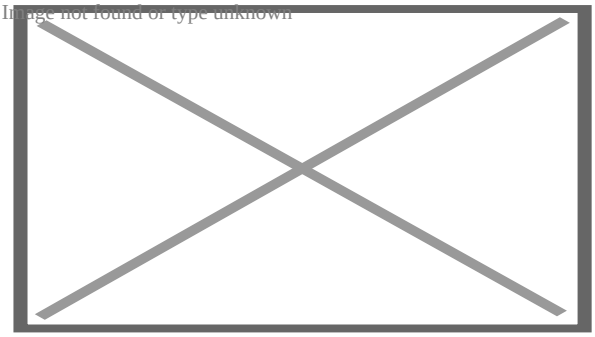
Search products

[edit]
Main article: List of Google products
"Google Videos" redirects here. For other uses, see Google Videos (disambiguation).

Google Videos



Screenshot



Google Videos homepage as of 2016

Type of site	Video search engine
Available in	Multilingual
Owner	Google
URL	www.google.com/videohp
Commercial	Yes
Registration	Recommended
Launched	August 20, 2012; 12 years ago

In addition to its tool for searching web pages, Google also provides services for searching images, Usenet newsgroups, news websites, videos (**Google Videos**), searching by locality, maps, and

items for sale online. **Google Videos** allows searching the World Wide Web for video clips.[133] The service evolved from Google Video, Google's discontinued video hosting service that also allowed to search the web for video clips.[133]

In 2012, Google has indexed over 30 trillion web pages, and received 100 billion queries per month.[134] It also caches much of the content that it indexes. Google operates other tools and services including Google News, Google Shopping, Google Maps, Google Custom Search, Google Earth, Google Docs, Picasa (discontinued), Panoramio (discontinued), YouTube, Google Translate, Google Blog Search and Google Desktop Search (discontinued[135]).

There are also products available from Google that are not directly search-related. Gmail, for example, is a webmail application, but still includes search features; Google Browser Sync does not offer any search facilities, although it aims to organize your browsing time.

Energy consumption

[edit]

In 2009, Google claimed that a search query requires altogether about 1 kJ or 0.0003 kW·h,[136] which is enough to raise the temperature of one liter of water by 0.24 °C. According to green search engine Ecosia, the industry standard for search engines is estimated to be about 0.2 grams of CO_2 emission per search.[137] Google's 40,000 searches per second translate to 8 kg CO_2 per second or over 252 million kilos of CO_2 per year.[138]

Google Doodles

[edit]
Main article: Google Doodle

On certain occasions, the logo on Google's webpage will change to a special version, known as a "Google Doodle". This is a picture, drawing, animation, or interactive game that includes the logo. It is usually done for a special event or day although not all of them are well known.[139] Clicking on the Doodle links to a string of Google search results about the topic. The first was a reference to the Burning Man Festival in 1998,[140][141] and others have been produced for the birthdays of notable people like Albert Einstein, historical events like the interlocking Lego block's 50th anniversary and holidays like Valentine's Day.[142] Some Google Doodles have interactivity beyond a simple search, such as the famous "Google Pac-Man" version that appeared on May 21, 2010.

Criticism

[edit]

Privacy

[edit]

Main article: Privacy concerns regarding Google

Google has been criticized for placing long-term cookies on users' machines to store preferences, a tactic which also enables them to track a user's search terms and retain the data for more than a year.[143]

Since 2012, Google Inc. has globally introduced encrypted connections for most of its clients, to bypass governative blockings of the commercial and IT services.[144]

Complaints about indexing

[edit]

In 2003, *The New York Times* complained about Google's indexing, claiming that Google's caching of content on its site infringed its copyright for the content.[145] In both *Field v. Google* and *Parker v. Google*, the United States District Court of Nevada ruled in favor of Google.[146][147]

Child sexual abuse

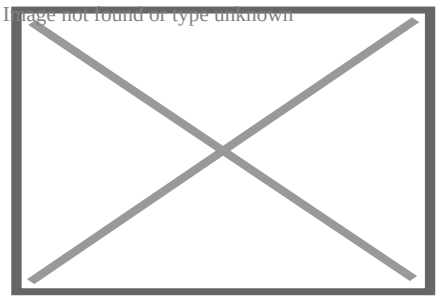
[edit]

[icon] This section **needs expansion**. You can help by making an edit requestadding to it . *(May 2024)*
Image not found or type unknown

A 2019 *New York Times* article on Google Search showed that images of child sexual abuse had been found on Google and that the company had been reluctant at times to remove them.[148]

January 2009 malware bug

[edit]



A screenshot of the error of January 31, 2009

Google flags search results with the message "This site may harm your computer" if the site is known to install malicious software in the background or otherwise surreptitiously. For approximately 40 minutes on January 31, 2009, all search results were mistakenly classified as malware and could therefore not be clicked; instead a warning message was displayed and the user was required to enter the requested URL manually. The bug was caused by human error.[149][150][151][152] The URL of "/" (which expands to all URLs) was mistakenly added to the malware

patterns file.[150][151]

Possible misuse of search results

[edit]

In 2007, a group of researchers observed a tendency for users to rely exclusively on Google Search for finding information, writing that "With the Google interface the user gets the impression that the search results imply a kind of totality. ... In fact, one only sees a small part of what one could see if one also integrates other research tools."[153]

In 2011, Google Search query results have been shown by Internet activist Eli Pariser to be tailored to users, effectively isolating users in what he defined as a filter bubble. Pariser holds algorithms used in search engines such as Google Search responsible for catering "a personal ecosystem of information".[154] Although contrasting views have mitigated the potential threat of "informational dystopia" and questioned the scientific nature of Pariser's claims,[155] filter bubbles have been mentioned to account for the surprising results of the U.S. presidential election in 2016 alongside fake news and echo chambers, suggesting that Facebook and Google have designed personalized online realities in which "we only see and hear what we like".[156]

FTC fines

[edit]

In 2012, the US Federal Trade Commission fined Google US$22.5 million for violating their agreement not to violate the privacy of users of Apple's Safari web browser.[157] The FTC was also continuing to investigate if Google's favoring of their own services in their search results violated antitrust regulations.[158]

Payments to Apple

[edit]

In a November 2023 disclosure, during the ongoing antitrust trial against Google, an economics professor at the University of Chicago revealed that Google pays Apple 36% of all search advertising revenue generated when users access Google through the Safari browser. This revelation reportedly caused Google's lead attorney to cringe visibly.[*citation needed*] The revenue generated from Safari users has been kept confidential, but the 36% figure suggests that it is likely in the tens of billions of dollars.

Both Apple and Google have argued that disclosing the specific terms of their search default agreement would harm their competitive positions. However, the court ruled that the information was relevant to the antitrust case and ordered its disclosure. This revelation has raised concerns about the dominance of Google in the search engine market and the potential anticompetitive effects of its agreements with Apple.[159]

Big data and human bias

[edit]

Google search engine robots are programmed to use algorithms that understand and predict human behavior. The book, *Race After Technology: Abolitionist Tools for the New Jim Code*[160] by Ruha Benjamin talks about human bias as a behavior that the Google search engine can recognize. In 2016, some users Google searched "three Black teenagers" and images of criminal mugshots of young African American teenagers came up. Then, the users searched "three White teenagers" and were presented with photos of smiling, happy teenagers. They also searched for "three Asian teenagers", and very revealing photos of Asian girls and women appeared. Benjamin concluded that these results reflect human prejudice and views on different ethnic groups. A group of analysts explained the concept of a racist computer program: "The idea here is that computers, unlike people, can't be racist but we're increasingly learning that they do in fact take after their makers ... Some experts believe that this problem might stem from the hidden biases in the massive piles of data that the algorithms process as they learn to recognize patterns ... reproducing our worst values".[160]

Monopoly ruling

[edit]

On August 5, 2024, Google lost a lawsuit which started in 2020 in D.C. Circuit Court, with Judge Amit Mehta finding that the company had an illegal monopoly over Internet search.[161] This monopoly was held to be in violation of Section 2 of the Sherman Act.[162] Google has said it will appeal the ruling,[163] though they did propose to loosen search deals with Apple and others requiring them to set Google as the default search engine.[164]

Trademark

[edit]
Main article: Google (verb)

As people talk about "googling" rather than searching, the company has taken some steps to defend its trademark, in an effort to prevent it from becoming a generic trademark.[165][166] This has led to lawsuits, threats of lawsuits, and the use of euphemisms, such as calling Google Search a **famous web search engine**.[167]

Discontinued features

[edit]

Translate foreign pages

[edit]

Until May 2013, Google Search had offered a feature to translate search queries into other languages. A Google spokesperson told *Search Engine Land* that "Removing features is always tough, but we do think very hard about each decision and its implications for our users. Unfortunately, this feature never saw much pick up".[168]

Instant search

[edit]

Instant search was announced in September 2010 as a feature that displayed suggested results while the user typed in their search query, initially only in select countries or to registered users.[169] The primary advantage of the new system was its ability to save time, with Marissa Mayer, then-vice president of search products and user experience, proclaiming that the feature would save 2–5 seconds per search, elaborating that "That may not seem like a lot at first, but it adds up. With Google Instant, we estimate that we'll save our users 11 hours with each passing second!"[170] Matt Van Wagner of *Search Engine Land* wrote that "Personally, I kind of like Google Instant and I think it represents a natural evolution in the way search works", and also praised Google's efforts in public relations, writing that "With just a press conference and a few well-placed interviews, Google has parlayed this relatively minor speed improvement into an attention-grabbing front-page news story".[171] The upgrade also became notable for the company switching Google Search's underlying technology from HTML to AJAX.[172]

Instant Search could be disabled via Google's "preferences" menu for those who didn't want its functionality.[173]

The publication *2600: The Hacker Quarterly* compiled a list of words that Google Instant did not show suggested results for, with a Google spokesperson giving the following statement to *Mashable*:[174]

> There are several reasons you may not be seeing search queries for a particular topic. Among other things, we apply a narrow set of removal policies for pornography, violence, and hate speech. It's important to note that removing queries from Autocomplete is a hard problem, and not as simple as blacklisting particular terms and phrases.
>
> In search, we get more than one billion searches each day. Because of this, we take an algorithmic approach to removals, and just like our search algorithms, these are imperfect. We will continue to work to improve our approach to removals in Autocomplete, and are listening carefully to feedback from our users.
>
> Our algorithms look not only at specific words, but compound queries based on those words, and across all languages. So, for example, if there's a bad word in Russian, we may remove a compound word including the transliteration of the Russian word into English. We also look at the search results themselves for given queries. So, for example, if the results for a particular query seem pornographic, our algorithms may remove that query from Autocomplete, even if the query itself wouldn't otherwise violate

> our policies. This system is neither perfect nor instantaneous, and we will continue to work to make it better.

PC Magazine discussed the inconsistency in how some forms of the same topic are allowed; for instance, "lesbian" was blocked, while "gay" was not, and "cocaine" was blocked, while "crack" and "heroin" were not. The report further stated that seemingly normal words were also blocked due to pornographic innuendos, most notably "scat", likely due to having two completely separate contextual meanings, one for music and one for a sexual practice.[175]

On July 26, 2017, Google removed Instant results, due to a growing number of searches on mobile devices, where interaction with search, as well as screen sizes, differ significantly from a computer.[176][177]

Instant previews[edit]

"Instant previews" allowed previewing screenshots of search results' web pages without having to open them. The feature was introduced in November 2010 to the desktop website and removed in April 2013 citing low usage.[178][179]

Dedicated encrypted search page

[edit]

Various search engines provide encrypted Web search facilities. In May 2010 Google rolled out SSL-encrypted web search.[180] The encrypted search was accessed at encrypted.google.com[181] However, the web search is encrypted via Transport Layer Security (TLS) by default today, thus every search request should be automatically encrypted if TLS is supported by the web browser.[182] On its support website, Google announced that the address encrypted.google.com would be turned off April 30, 2018, stating that all Google products and most new browsers use HTTPS connections as the reason for the discontinuation.[183]

Real-Time Search

[edit]

Google Real-Time Search was a feature of Google Search in which search results also sometimes included real-time information from sources such as Twitter, Facebook, blogs, and news websites.[184] The feature was introduced on December 7, 2009,[185] and went offline on July 2, 2011, after the deal with Twitter expired.[186] Real-Time Search included Facebook status updates beginning on February 24, 2010.[187] A feature similar to Real-Time Search was already available on Microsoft's Bing search engine, which showed results from Twitter and Facebook.[188] The interface for the engine showed a live, descending "river" of posts in the main region (which could

be paused or resumed), while a bar chart metric of the frequency of posts containing a certain search term or hashtag was located on the right hand corner of the page above a list of most frequently reposted posts and outgoing links. Hashtag search links were also supported, as were "promoted" tweets hosted by Twitter (located persistently on top of the river) and thumbnails of retweeted image or video links.

In January 2011, geolocation links of posts were made available alongside results in Real-Time Search. In addition, posts containing syndicated or attached shortened links were made searchable by the *link:* query option. In July 2011, Real-Time Search became inaccessible, with the Real-Time link in the Google sidebar disappearing and a custom 404 error page generated by Google returned at its former URL. Google originally suggested that the interruption was temporary and related to the launch of Google+;[189] they subsequently announced that it was due to the expiry of a commercial arrangement with Twitter to provide access to tweets.[190]

See also

[edit]

- icon
  Image not found or type unknown Internet portal

- List of search engines by popularity – Software system for finding relevant information on the Web
- Timeline of Google Search
- Censorship by Google § Google Search
- Google (verb) – Transitive verb, to search using Google
- Dragonfly (search engine) – Prototype Internet search engine to comply with Chinese censorship requirements
- Google bombing – Practice that causes a webpage to have a high rank in Google
- Google Panda – Change to Google's search results ranking algorithm
- Google Penguin – Google search engine algorithm update
- Googlewhack – Contest to find a Google Search query that returns a single result
- Halalgoogling – Islamic search engine blocking haram content
- Prabhakar Raghavan – American computer scientist
- Reunion (advertisement) – Google India advertisement for Google Search
- List of search engines
- Comparison of web search engines
- History of Google
- List of Google products

References

[edit]

1. ^ *York, Dan (June 6, 2016). "Google's IPv6 Stats Hit 12% on Fourth Anniversary of World IPv6 Launch". CircleID. Archived from the original on November 28, 2020. Retrieved August 5, 2019.*

2. ^ *"The Anatomy of a Large-Scale Hypertextual Web Search Engine". Computer Science Department, Stanford University, Stanford, CA. Archived from the original on April 25, 2009. Retrieved January 27, 2009.*
3. ^ *"Search Engine Market Share Worldwide | StatCounter Global Stats". StatCounter Global Stats. Archived from the original on December 10, 2020. Retrieved April 9, 2021.*
4. ^ *"google.com". similarweb.com.*
5. ^ *Fisher, Adam (July 10, 2018). "Brin, Page, and Mayer on the Accidental Birth of the Company that Changed Everything". Vanity Fair. Archived from the original on July 4, 2019. Retrieved August 23, 2019.*
6. ^ *McHugh, Josh (January 1, 2003). "Google vs. Evil". Wired. Retrieved August 24, 2019.*
7. ^ *D'Onfro, Jillian (February 13, 2016). "How a billionaire who wrote Google's original code created a robot revolution". Business Insider. Archived from the original on August 24, 2019. Retrieved August 24, 2019.*
8. ^ *Yoon, John; Isaac, Mike (August 10, 2024). "Susan Wojcicki, Former Chief of YouTube, Dies at 56". New York Times. Retrieved August 10, 2024.*
9. ^ Google (Tue June 14, 2011) Official announcement Archived July 31, 2020, at the Wayback Machine
10. ^ *Hubbard, Douglas (2011). Pulse: The New Science of Harnessing Internet Buzz to Track Threats and Opportunities. John Wiley & Sons.*
11. ^ *"Soon We Won't Program Computers. We'll Train Them Like Dogs". Wired. Retrieved May 30, 2018.*
12. ^ *Barakat, Matthew; Liedtke, Michale (August 5, 2024). "Google illegally maintains monopoly over internet search, judge rules". Associated Press. Retrieved August 6, 2024.*
13. ^ ***a b*** *"A court says Google is a monopolist. Now what?". The Economist. ISSN 0013-0613. Retrieved November 18, 2024.*
14. ^ ***a b*** *Dominguez, Trace (September 2, 2015). "How Much of the Internet Is Hidden?". Seeker . Group Nine Media. Archived from the original on December 10, 2017. Retrieved December 9, 2017.*
15. ^ *"View web pages cached in Google Search Results". Google Search Help. Archived from the original on December 18, 2017. Retrieved December 9, 2017.*
16. ^ *Boswell, Wendy (November 1, 2017). "How to Use Google to Find and Open Files Online". Lifewire. Dotdash. Archived from the original on December 10, 2017. Retrieved December 9, 2017.*
17. ^ *"Block explicit results on Google using SafeSearch". Google Search Help. Archived from the original on April 6, 2018. Retrieved December 9, 2017.*
18. ^ *Rosen, JJ (May 3, 2014). "The Internet you can't Google". The Tennessean. Gannett Company. Retrieved December 9, 2017.*
19. ^ *Sherman, Chris; Price, Gary (May 22, 2008). "The Invisible Web: Uncovering Sources Search Engines Can't See". Illinois Digital Environment for Access to Learning and Scholarship. University of Illinois at Urbana–Champaign. hdl:2142/8528.*
20. ^ *Albanesius, Chloe (August 10, 2012). "Google to Demote Sites With 'High Number' of Copyright Complaints". PC Magazine. Ziff Davis. Retrieved December 9, 2017.*
21. ^ *Schwartz, Barry (October 13, 2016). "Within months, Google to divide its index, giving mobile users better & fresher content". Search Engine Land. Archived from the original on December 9, 2017. Retrieved December 9, 2017.*

22. ^ Roberts, Hannah (October 27, 2016). "Google is splitting its search index to target 'stripped down' mobile websites". Business Insider. Axel Springer SE. Archived from the original on December 9, 2017. Retrieved December 9, 2017.
23. ^ Perez, Sarah (December 20, 2017). "Google's mobile-first search index has rolled out to a handful of sites". TechCrunch. Oath Inc. Archived from the original on December 20, 2017. Retrieved December 21, 2017.
24. ^ Barnett, Emma (August 11, 2009). "Google reveals caffeine: a new faster search engine". The Daily Telegraph. Archived from the original on January 10, 2022. Retrieved December 9, 2017.
25. ^ Fox, Vanessa (August 10, 2009). "Google Caffeine: Google's New Search Engine Index". Search Engine Land. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
26. ^ Fox, Vanessa (June 8, 2010). "Google's New Indexing Infrastructure "Caffeine" Now Live". Search Engine Land. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
27. ^ Metz, Cade (September 9, 2010). "Google search index splits with MapReduce". The Register. Situation Publishing. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
28. ^ Metz, Cade (August 14, 2009). "Google Caffeine: What it really is". The Register. Situation Publishing. Archived from the original on December 23, 2017. Retrieved December 9, 2017.
29. ^ Schwartz, Barry (August 9, 2018). "Google's Aug. 1 core algorithm update: Who did it impact, and how much". Search Engine Land. Archived from the original on August 23, 2018. Retrieved August 23, 2018.
30. ^ "Google Medic Update: Google's Core Search Update Had Big Impact On Health/Medical Sites". seroundtable.com. August 8, 2018. Archived from the original on March 21, 2019. Retrieved March 11, 2019.
31. ^ "Google Search Statistics - Internet Live Stats". www.internetlivestats.com. Archived from the original on February 4, 2015. Retrieved April 9, 2021.
32. ^ Barker, Alex; McCarthy, Bede (April 9, 2013). "Google favours 'in-house' search results". Financial Times. Archived from the original on December 10, 2022. Retrieved January 26, 2014.
33. ^ D'Onfro, Jillian (April 19, 2015). "Google is making a giant change this week that could crush millions of small businesses". Business Insider. Archived from the original on October 7, 2016. Retrieved November 5, 2016.
34. ^ Brin, S.; Page, L. (1998). "The anatomy of a large-scale hypertextual Web search engine" (PDF). Computer Networks and ISDN Systems. **30** (1–7): 107–117. CiteSeerX 10.1.1.115.5930. doi:10.1016/S0169-7552(98)00110-X. ISSN 0169-7552. S2CID 7587743. Archived (PDF) from the original on November 8, 2006.
35. ^ "Corporate Information: Technology Overview". Archived from the original on February 10, 2010. Retrieved November 15, 2009.
36. ^ Levy, Steven (February 22, 2010). "Exclusive: How Google's Algorithm Rules the Web". Wired. Vol. 17, no. 12. Wired.com. Archived from the original on April 16, 2011.
37. ^ "About: RankDex" Archived January 20, 2012, at the Wayback Machine, RankDex
38. ^ "Method for node ranking in a linked database". Google Patents. Archived from the original on October 15, 2015. Retrieved October 19, 2015.

39. ^ "Google's goal: to organize your daily life" Archived October 19, 2011, at the Wayback Machine. *Financial Times*.
40. ^ "Google and the Search for the Future" Archived July 30, 2017, at the Wayback Machine. *The Wall Street Journal*.
41. ^ *"Google Webmaster Guidelines". Archived from the original on January 9, 2009. Retrieved November 15, 2009.*
42. ^ *Segal, David (November 26, 2010). "A Bully Finds a Pulpit on the Web". The New York Times. Archived from the original on January 2, 2022. Retrieved November 27, 2010.*
43. ^ *"Blogspot.com". Googleblog.blogspot.com. Archived from the original on October 19, 2012. Retrieved August 4, 2012.*
44. ^ ***a b c*** *Elran, Asher (November 15, 2013). "What Google 'Hummingbird' Means for Your SEO Strategy". Entrepreneur. Archived from the original on June 24, 2022. Retrieved December 10, 2017.*
45. ^ *Sullivan, Danny (September 26, 2013). "FAQ: All About The New Google "Hummingbird" Algorithm". Search Engine Land. Archived from the original on December 23, 2018. Retrieved December 10, 2017.*
46. ^ *Dodds, Don (December 16, 2013). "An SEO Guide to the Google Hummingbird Update". HuffPost. Oath Inc. Archived from the original on June 4, 2016. Retrieved December 10, 2017 .*
47. ^ *Taylor, Richard (September 26, 2013). "Google unveils major upgrade to search algorithm". BBC News. BBC. Archived from the original on June 26, 2022. Retrieved December 10, 2017.*
48. ^ *Marentis, Chris (April 11, 2014). "A Complete Guide To The Essentials Of Post-Hummingbird SEO". Search Engine Land. Archived from the original on June 28, 2022. Retrieved December 10, 2017.*
49. ^ *Warzel, Charlie (September 22, 2023). "The Tragedy of Google Search". The Atlantic. Retrieved November 7, 2023.*
50. ^ *Megan Gray (October 2, 2023). "How Google Alters Search Queries to Get at Your Wallet". Archived from the original on October 2, 2023. "This onscreen Google slide had to do with a "semantic matching" overhaul to its SERP algorithm. When you enter a query, you might expect a search engine to incorporate synonyms into the algorithm as well as text phrase pairings in natural language processing. But this overhaul went further, actually altering queries to generate more commercial results."*
51. ^ *Megan Gray (October 8, 2023). "Google is controlling the trial w/ its secrecy designations, controlling our searches w/ its greed, and controlling Wired w/ its scare tactics. I wrote an op-ed re Google mucking around w/ organic search to make it more shopping-oriented to gin up ad $. I stand by that. My Ã ƒÂ°Ã…Â¸Ã‚Â§Ã‚Âµ". Twitter. Archived from the original on November 7, 2023 – via Thread Reader App.*
52. ^ *Schwartz, Barry (March 5, 2024). "Google releasing massive search quality enhancements in March 2024 core update and multiple spam updates". Search Engine Land.*
53. ^ *Schwartz, Barry (March 20, 2024). "Google March 2024 spam update done rolling out". Search Engine Land.*
54. ^ ***a b*** *Hancock, Edith (September 10, 2024). "Google loses EU court battle over €2.4B antitrust fine". Politico. Retrieved September 10, 2024.*
55. ^ *"test". Google Search. Archived from the original on October 5, 2021. Retrieved October 5, 2021.*

56. ^ Slegg, Jennifer (November 2, 2015). "Google Testing Huge 7-Line Snippets in Search Results". The SEM Post. Archived from the original on October 17, 2021. Retrieved October 5, 2021.
57. ^ "Google officially increases length of snippets in search results". Search Engine Land. December 1, 2017. Archived from the original on October 5, 2021. Retrieved October 5, 2021.
58. ^ Marshall, Matt (May 16, 2007). "Google's move to "universal search"". VentureBeat. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
59. ^ Sullivan, Danny (May 16, 2007). "Google Launches "Universal Search" & Blended Results". Search Engine Land. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
60. ^ Mayer, Marissa (May 16, 2007). "Universal search: The best answer is still the best answer" . Official Google Blog. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
61. ^ Lardinois, Frederic (June 20, 2017). "Google launches its AI-powered jobs search engine". TechCrunch. AOL. Archived from the original on June 21, 2017. Retrieved June 22, 2017.
62. ^ Gebhart, Andrew (June 20, 2017). "Google for Jobs is ready to help your employment search". CNET. CBS Interactive. Archived from the original on June 20, 2017. Retrieved June 22, 2017.
63. ^ Fox, Vanessa (May 12, 2009). "Google Search Now Supports Microformats and Adds "Rich Snippets" to Search Results". Search Engine Land. Archived from the original on December 9, 2017. Retrieved December 9, 2017.
64. ^ Schwartz, Barry (May 17, 2016). "Google launches rich cards for movie and recipe websites". Search Engine Land. Archived from the original on December 9, 2017. Retrieved December 9, 2017.
65. ^ Schwartz, Barry (March 29, 2017). "Google quietly expands rich cards worldwide". Search Engine Land. Archived from the original on December 9, 2017. Retrieved December 9, 2017.
66. ^ **a** **b** Singhal, Amit (May 16, 2012). "Introducing the Knowledge Graph: things, not strings". Official Google Blog. Archived from the original on December 10, 2017. Retrieved December 10, 2017.
67. ^ "Your business information in the Knowledge Panel". Google My Business Help. Archived from the original on April 20, 2017. Retrieved December 10, 2017.
68. ^ Newton, Casey (December 14, 2012). "How Google is taking the Knowledge Graph global". CNET. CBS Interactive. Archived from the original on December 10, 2017. Retrieved December 10, 2017.
69. ^ Newton, Casey (December 4, 2012). "Google's Knowledge Graph tripled in size in seven months". CNET. CBS Interactive. Archived from the original on August 29, 2018. Retrieved December 10, 2017.
70. ^ **a** **b** Dewey, Caitlin (May 11, 2016). "You probably haven't even noticed Google's sketchy quest to control the world's knowledge". The Washington Post. Archived from the original on September 25, 2017. Retrieved December 10, 2017.
71. ^ Lynley, Matthew (May 18, 2016). "Google unveils Google Assistant, a virtual assistant that's a big upgrade to Google Now". TechCrunch. Oath Inc. Archived from the original on January 26, 2021. Retrieved December 10, 2017.
72. ^ Bohn, Dieter (May 18, 2016). "Google Home: a speaker to finally take on the Amazon Echo" . The Verge. Vox Media. Archived from the original on December 15, 2017. Retrieved December 10, 2017.

73. ^ Browne, Ryan (December 10, 2020). "Google launches knowledge panels in search results to tackle misinformation about Covid vaccines". CNBC. Retrieved August 28, 2024.
74. ^ Lardinois, Frederic (May 16, 2012). "Google Just Got A Whole Lot Smarter, Launches Its Knowledge Graph". TechCrunch. Retrieved August 28, 2024.
75. ^ Duffy, Scott (April 7, 2023). "How to Claim and Optimize Your Google Knowledge Panel". Entrepreneur. Retrieved August 28, 2024.
76. ^ Gartenberg, Chaim (May 26, 2017). "Google adds new Personal tab to search results to show Gmail and Photos content". The Verge. Vox Media. Archived from the original on May 26, 2017. Retrieved May 27, 2017.
77. ^ Westenberg, Jimmy (May 28, 2017). "New Personal tab in Google Search will show results from Photos, Gmail, and more". Android Authority. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
78. ^ **a** **b** Bell, Karissa. "Google is using your entire search history to create a personalized news feed". Mashable. Archived from the original on May 23, 2018. Retrieved May 22, 2018.
79. ^ "Google is putting a news feed in Android's home screen". The Verge. Archived from the original on September 13, 2018. Retrieved May 22, 2018.
80. ^ Larson, Selena. "The Google app feed is about to get more personal". CNNMoney. Archived from the original on May 23, 2018. Retrieved May 22, 2018.
81. ^ "Introducing Google Discover". The Keyword Google. Archived from the original on July 16, 2021. Retrieved July 14, 2021.
82. ^ Lee, Dave (November 21, 2019). "Google to restrict political adverts worldwide". Archived from the original on November 21, 2019. Retrieved November 21, 2019.
83. ^ Pierce, David (May 10, 2023). "The AI takeover of Google Search starts now". The Verge. Archived from the original on May 10, 2023. Retrieved September 12, 2023.
84. ^ Levy, Steven (September 11, 2023). "Sundar Pichai on Google;s AI, Microsoft's AI, OpenAI, and ... Did We Mention AI?". Wired. Archived from the original on September 11, 2023. Retrieved September 12, 2023.
85. ^ Peters, Jay (October 12, 2023). "Google's AI-powered search experience can now generate images". The Verge. Archived from the original on October 12, 2023. Retrieved October 15, 2023.
86. ^ **a** **b** Pierce, David (May 14, 2024). "Google is redesigning its search engine — and it's AI all the way down". The Verge. Archived from the original on May 14, 2024. Retrieved May 14, 2024.
87. ^ **a** **b** McMahon, Liv; Kleinman, Zoe (May 25, 2024). "Glue pizza and eat rocks: Google AI search errors go viral". BBC.
88. ^ Field, Hayden (May 24, 2024). "Google criticized as AI Overview makes obvious errors, such as saying former President Obama is Muslim". CNBC.
89. ^ Grant, Nico (May 24, 2024). "Google's A.I. Search Errors Cause a Furor Online". New York Times.
90. ^ De Vynck, Gerrit (May 30, 2024). "Google scales back AI search answers after it told users to eat glue". The Washington Post. Archived from the original on May 31, 2024. Retrieved May 31, 2024.
91. ^ Parshall, Allison. "What Do Google's AI Answers Cost the Environment?". Scientific American.
92. ^ Darcy, Oliver (May 15, 2024). "News publishers sound alarm on Google's new AI-infused search, warn of 'catastrophic' impacts | CNN Business". CNN. Retrieved November 3, 2024.

93. ^ Mauran, Cecily (August 15, 2024). "The new Google AI Overview layout is a small win for publishers". Mashable. Retrieved November 3, 2024.
94. ^ Yeo, Amanda (October 28, 2024). "Google's AI Overview is rolling out worldwide". Mashable. Retrieved November 3, 2024.
95. ^ Malik, Aisha (March 5, 2025). "Google Search's new 'AI Mode' lets users ask complex, multi-part questions". TechCrunch. Retrieved March 7, 2025.
96. ^ Langley, Hugh. "Google's new AI Mode is a huge leap away from search as we know it". Business Insider. Retrieved March 7, 2025.
97. ^ Beato, Augusto. "Google Redesign Backs Social Effort". Portland SEO. Archived from the original on December 1, 2017. Retrieved July 1, 2011.
98. ^ "Google redesigns its homepage". Los Angeles Times. June 29, 2011. Archived from the original on January 21, 2013. Retrieved August 4, 2012.
99. ^ "Google support forum, one of many threads on being unable to switch off the black navigation bar". Archived from the original on December 24, 2011. Retrieved August 4, 2012.
100. ^ "Google ads: The wolf is out of the lamb's skin". www.techmw.com. Archived from the original on December 2, 2013. Retrieved December 2, 2013.
101. ^ Schwartz, Barry (December 6, 2016). "Google begins rolling out a new desktop search user interface". Search Engine Land. blogspot. Archived from the original on December 7, 2016. Retrieved December 6, 2016.
102. ^ "Google Search". Archived from the original on May 28, 2010. Retrieved May 30, 2018.
103. ^ Perez, Sarah (January 22, 2020). "Google's Collections feature now pushes people to save recipes & products, using AI". TechCrunch. Oath Inc. Archived from the original on July 14, 2021. Retrieved July 14, 2021.
104. ^ Bohn, Dieter (December 6, 2016). "Google is putting a news feed in Android's home screen". The Verge. Vox Media. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
105. ^ Newton, Casey (July 19, 2017). "Google introduces the feed, a personalized stream of news on iOS and Android". The Verge. Vox Media. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
106. ^ Matney, Lucas (July 19, 2017). "Google introduces the feed, a news stream of your evolving interests". TechCrunch. Oath Inc. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
107. ^ Schwartz, Barry (April 19, 2016). "Google Testing Trending In Search Auto-Complete". Search Engine Roundtable. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
108. ^ Schwartz, Barry (August 11, 2016). "You Can Now Opt Out Of Trending Searches In The Google Search App". Search Engine Roundtable. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
109. ^ Perez, Sarah (September 1, 2017). "Google's Search app on iOS gets a Twitter-like Trends feature, faster Instant Answers". TechCrunch. Oath Inc. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
110. ^ "Google for India: Building India-first products and features". Google. December 5, 2017. Archived from the original on February 5, 2022. Retrieved February 5, 2022.
111. ^ "Top 500". Alexa Internet. Archived from the original on February 3, 2021. Retrieved November 8, 2020.

112. ^ Perry, Alex (April 10, 2019). "Google makes it way easier to search by date". Mashable. Archived from the original on March 2, 2022. Retrieved March 2, 2022.
113. ^ **a b** "How to search on Google". Google Search Help. Archived from the original on December 5, 2017. Retrieved December 9, 2017.
114. ^ "Refine web searches". Google Search Help. Archived from the original on October 11, 2017. Retrieved December 9, 2017.
115. ^ Boswell, Wendy (October 5, 2017). "Advanced Google Search Shortcuts". Lifewire. Dotdash. Archived from the original on January 7, 2018. Retrieved December 9, 2017.
116. ^ "Google Advanced Search". Google. Archived from the original on June 8, 2022. Retrieved June 9, 2022.
117. ^ Smarty, Ann (October 31, 2008). "What is Google Query Expansion? Cases and Examples" . Search Engine Journal. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
118. ^ Sullivan, Danny (August 25, 2008). "Google.com Finally Gets Google Suggest Feature". Search Engine Land. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
119. ^ "What Does The I'm Feeling Lucky Button On Google Search Do?". Fossbytes. April 12, 2016. Archived from the original on February 5, 2023. Retrieved March 2, 2022.
120. ^ Karch, Marziah (November 25, 2017). "How to Use Google's "I'm Feeling Lucky" Button". Lifewire. Dotdash. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
121. ^ Paul, Ian (August 24, 2012). "Google Changes 'I'm Feeling Lucky' Button". PC World. International Data Group. Archived from the original on August 31, 2017. Retrieved December 9, 2017.
122. ^ Newman, Brendan (November 19, 2007). "Are you feeling lucky? Google is". Marketplace. American Public Media. Archived from the original on October 20, 2017. Retrieved December 9, 2017.
123. ^ Reporters, Telegraph (August 17, 2017). "15 fun Google Easter eggs". The Daily Telegraph . Archived from the original on January 10, 2022. Retrieved December 9, 2017.
124. ^ Klosowski, Thorin (September 6, 2012). "20 Google Search Shortcuts to Hone Your Google-Fu". Lifehacker. Univision Communications. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
125. ^ Graziano, Dan (August 9, 2013). "How to get the most out of Google search". CNET. CBS Interactive. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
126. ^ Warman, Matt (May 16, 2013). "'OK Google' - 'conversational search' is coming soon". The Daily Telegraph. Archived from the original on January 10, 2022. Retrieved December 9, 2017.
127. ^ Robertson, Adi (May 15, 2013). "Google adds button-free voice search in Chrome: just say 'OK Google'". The Verge. Vox Media. Archived from the original on December 10, 2017. Retrieved December 9, 2017.
128. ^ Lee, Jessica (May 23, 2013). "Google Talks Back: Conversational Search Available on New Version of Chrome". Search Engine Watch. Archived from the original on December 10, 2017 . Retrieved December 9, 2017.
129. ^ Albanesius, Chloe (November 27, 2013). "'OK Google' Voice Search Lands on Chrome". PC Magazine. Ziff Davis. Retrieved December 9, 2017.

130. ^ *Protalinski, Emil (May 20, 2014). "Chrome 35 launches with 'OK Google' voice search, more control over touch input, new APIs and JavaScript features". The Next Web. Archived from the original on December 10, 2017. Retrieved December 9, 2017.*
131. ^ *Protalinski, Emil (October 16, 2015). "Google removes 'OK Google' voice search from Chrome". VentureBeat. Archived from the original on December 10, 2017. Retrieved December 9, 2017.*
132. ^ *Shahani, Aarti (May 18, 2016). "With New Products, Google Flexes Muscles To Competitors, Regulators". NPR. Archived from the original on December 16, 2017. Retrieved December 15, 2017.*
133. ^ ***a b*** *Sullivan, Danny (August 5, 2010). "Let's Celebrate Google's Biggest Failures!". Search Engine Land. Archived from the original on April 5, 2019. Retrieved April 5, 2019.*
134. ^ *"Google: 100 Billion Searches Per Month, Search To Integrate Gmail, Launching Enhanced Search App For iOS". Searchengineland.com. August 8, 2012. Archived from the original on March 3, 2013. Retrieved February 18, 2013.*
135. ^ *Alan Eustace (September 2, 2011). "A fall spring-clean". Archived from the original on September 7, 2011. Retrieved October 1, 2020.*
136. ^ Blogspot.com Archived July 29, 2009, at the Wayback Machine, Powering a Google search
137. ^ [1] Archived March 28, 2019, at the Wayback Machine How does Ecosia neutralize a search's CO2 emissions?
138. ^ [2] Archived February 4, 2015, at the Wayback Machine Google Search Statistics
139. ^ About Google Doodles . Google.com. Retrieved on November 29, 2013.
140. ^ *Hwang, Dennis (June 8, 2004). "Oodles of Doodles". Google (corporate blog). Archived from the original on December 2, 2010. Retrieved July 19, 2006.*
141. ^ *"History of Doodles". Google, Inc. Archived from the original on February 5, 2014. Retrieved October 5, 2010.*
142. ^ *"valentine07". Google. February 14, 2007. Archived from the original on March 7, 2007. Retrieved April 6, 2007.*
143. ^ *Caddy, Becca (March 20, 2017). "Google tracks everything you do: here's how to delete it". Wired. Archived from the original on March 24, 2017. Retrieved March 20, 2017.*
144. ^ *Craig Timberg; JIa Lynn Yang (March 12, 2014). "Google is encrypting search globally. That's bad for the NSA and China's censors". The Washington Post. Archived from the original on December 3, 2018. Retrieved July 7, 2018.*
145. ^ *Olsen, Stefanie (July 9, 2003). "Google cache raises copyright concerns". CNET. CBS Interactive. Archived from the original on May 10, 2011. Retrieved June 13, 2010.*
146. ^ *Field v. Google*, CV-S-04-0413-RCJ-LRL (Nevada District Court January 19, 2006), archived from the original.
147. ^ *Parker v. Google*, 04-CV-3918 (Eastern Pennsylvania District Court March 10, 2006), archived from the original on 2006-05-19.
148. ^ *Keller, Michael H.; Dance, Gabriel J. X. (November 9, 2019). "Child Abusers Run Rampant as Tech Companies Look the Other Way". The New York Times. ISSN 0362-4331. Retrieved October 9, 2023.*
149. ^ *Krebs, Brian (January 31, 2009). "Google: This Internet May Harm Your Computer". The Washington Post. Archived from the original on November 30, 2011. Retrieved January 31, 2009.*
150. ^ ***a b*** *Mayer, Marissa (January 31, 2009). "This site may harm your computer on every search result?!?!". Official Google Blog. Archived from the original on February 2, 2009. Retrieved*

January 31, 2009.
151. ^ **a b** *Weinstein, Maxim (January 31, 2009). "Google glitch causes confusion". StopBadware. Archived from the original on July 8, 2010. Retrieved May 10, 2010.*
152. ^ *Cooper, Russ (January 31, 2009). "Serious problems with Google search". Verizon Business Security Blog. Archived from the original on July 17, 2011. Retrieved May 10, 2010.*
153. ^ *Maurer, H.; Balke, Tilo; Kappe, Frank; Kulathuramaiyer, Narayanan; Weber, Stefan; Zaka, Bilal (September 30, 2007). "Report on dangers and opportunities posed by large search engines, particularly Google" (PDF). Graz University of Technology. Archived from the original (PDF) on December 29, 2009. Retrieved June 13, 2017.*
154. ^ *Parramore, Lynn (October 10, 2010). "The Filter Bubble". The Atlantic. Archived from the original on August 22, 2017. Retrieved April 20, 2011. "Since Dec. 4, 2009, Google has been personalized for everyone. So when I had two friends this spring Google 'BP,' one of them got a set of links that was about investment opportunities in BP. The other one got information about the oil spill"*
155. ^ *Weisberg, Jacob (June 10, 2011). "Bubble Trouble: Is Web personalization turning us into solipsistic twits?". Slate. Archived from the original on June 12, 2011. Retrieved August 15, 2011.*
156. ^ *Mostafa M. El-Bermawy (November 18, 2016). "Your Filter Bubble is Destroying Democracy". Wired. Retrieved March 3, 2017. "The global village that was once the internet ... digital islands of isolation that are drifting further apart each day ... your experience online grows increasingly personalized"*
157. ^ "Google fined over Safari privacy violation" Archived August 11, 2012, at the Wayback Machine. *Al Jazeera*, August 10, 2012.
158. ^ Bailey, Brandon. "Google's review by FTC nearing critical point" Archived January 22, 2013, at the Wayback Machine. *Mercury News*, November 9, 2012.
159. ^ *Nylen, Leah (November 13, 2023). "Apple Gets 36% of Google Revenue in Search Deal, Expert Says". Bloomberg News. Retrieved November 14, 2023.*
160. ^ **a b** *Benjamin, Ruha (2019). Race After Technology: Abolitionist Tools for the New Jim Code . Cambridge, UK: Polity Press. pp. 94–95. ISBN 9781509526437.*
161. ^ *Peters, Jay (August 6, 2024). "Now that Google is a monopolist, what's next? / Reaching a decision on what to do about Google Search could take a very long time". The Verge. Retrieved August 6, 2024.*
162. ^ *Mallin, Alexander (August 5, 2024). "Google violated antitrust laws to maintain dominance over online search, judge says". ABC News. Retrieved August 6, 2024.*
163. ^ *Milmo, Dan; editor, Dan Milmo Global technology (November 21, 2024). "Google must sell Chrome to end search monopoly, says US justice department". The Guardian. ISSN 0261-3077. Retrieved January 7, 2025.* cite news: |last2= has generic name (help)
164. ^ *Godoy, Jody (December 23, 2024). "Google offers to loosen search deals in US antitrust case remedy". Reuters. Retrieved January 7, 2025.*
165. ^ *Duffy, Jonathan (June 20, 2003). "Google calls in the 'language police'". BBC News. Archived from the original on June 29, 2012. Retrieved April 10, 2019.*
166. ^ *Ash, Karen Artz; Danow, Bret J. ""Google It": The Search Engine's Trademark May Be a Verb, But It's Not Generic". The National Law Review. Archived from the original on April 10, 2019. Retrieved April 10, 2019.*
167. ^ *"Feedback: Weight in dollars squared". New Scientist. June 5, 2013. Archived from the original on April 26, 2021. Retrieved November 8, 2020.*

168. ^ Schwartz, Barry (May 20, 2013). "Google Drops "Translated Foreign Pages" Search Option Due To Lack Of Use". Search Engine Land. Archived from the original on October 17, 2017. Retrieved December 15, 2017.
169. ^ "Google Instant Search: The Complete User's Guide". Search Engine Land. September 8, 2010. Archived from the original on October 20, 2021. Retrieved October 5, 2021. "Google Instant only works for searchers in the US or who are logged in to a Google account in selected countries outside the US"
170. ^ Mayer, Marissa (September 8, 2010). "Search: now faster than the speed of type". Official Google Blog. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
171. ^ Wagner, Matt Van (September 20, 2010). "How Google Saved $100 Million By Launching Google Instant". Search Engine Land. Archived from the original on October 19, 2017. Retrieved December 15, 2017.
172. ^ Gomes, Ben (September 9, 2010). "Google Instant, behind the scenes". Official Google Blog. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
173. ^ Pash, Adam (September 8, 2010). "How to Turn Off Google Instant Search". Lifehacker. Univision Communications. Archived from the original on December 16, 2017. Retrieved December 15, 2017.
174. ^ Axon, Samuel (September 28, 2010). "Which Words Does Google Instant Blacklist?". Mashable. Ziff Davis. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
175. ^ Horn, Leslie (September 29, 2010). "Google Instant Blacklist: Which Words Are Blocked?". PC Magazine. Ziff Davis. Retrieved December 15, 2017.
176. ^ Schwartz, Barry (July 26, 2017). "Google has dropped Google Instant Search". Search Engine Land. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
177. ^ Statt, Nick (July 26, 2017). "Google will stop showing search results as you type because it makes no sense on mobile". The Verge. Vox Media. Archived from the original on December 15, 2017. Retrieved December 15, 2017.
178. ^ Singel, Ryan (November 9, 2010). "Google Gives Searchers 'Instant Previews' of Result Pages". Wired. Retrieved October 5, 2021.
179. ^ "Google Drops Instant Previews Over Low Usage". seroundtable.com. April 25, 2013. Archived from the original on October 5, 2021. Retrieved October 5, 2021.
180. ^ "SSL Search: Features – Web Search Help". Web Search Help. May 2010. Archived from the original on May 24, 2010. Retrieved July 7, 2010.
181. ^ "Encrypted.google.com". Archived from the original on December 29, 2013. Retrieved August 4, 2012.
182. ^ "Google Will Start Encrypting Your Searches". Time. March 13, 2014. Retrieved February 6, 2017.
183. ^ "Encrypted.google.com is going away". Google Inc. Archived from the original on March 27, 2018. Retrieved May 18, 2018.
184. ^ "Google launches Real-Time Search" Archived January 26, 2021, at the Wayback Machine. Mashable. Retrieved July 12, 2010.
185. ^ "Relevance meets the real-time web" Archived April 7, 2019, at the Wayback Machine. Google. Retrieved July 12, 2010.

186. ^ *"As Deal With Twitter Expires, Google Realtime Search Goes Offline". Searchengineland.com. July 4, 2011. Archived from the original on November 11, 2013. Retrieved March 3, 2014.*
187. ^ "Google Real-Time Search Now Includes A Fraction Of Facebook Status Updates" Archived October 31, 2019, at the Wayback Machine. TechCrunch. Retrieved July 12, 2010.
188. ^ "Google's Real-Time Search Ready to Challenge Bing" Archived July 6, 2012, at the Wayback Machine. *PC World*. Retrieved July 12, 2010.
189. ^ *Quotes delayed at least 15 min (December 31, 1999). "Business news: Financial, stock & investing news online - MSN Money". Money.msn.com. Archived from the original on April 2, 2011. Retrieved March 3, 2014.*cite web: CS1 maint: numeric names: authors list (link)
190. ^ *"Google Realtime Search Goes Missing". Searchengineland.com. July 3, 2011. Archived from the original on February 14, 2014. Retrieved March 3, 2014.*

Further reading

[edit]

- *Google Hacks* from O'Reilly is a book containing tips about using Google effectively. Now in its third edition (2006). ISBN 0-596-52706-3.
- *Google: The Missing Manual* by Sarah Milstein and Rael Dornfest (O'Reilly, 2004). ISBN 0-596-00613-6
- *How to Do Everything with Google* by Fritz Schneider, Nancy Blachman, and Eric Fredricksen (McGraw-Hill Osborne Media, 2003). ISBN 0-07-223174-2
- *Google Power* by Chris Sherman (McGraw-Hill Osborne Media, 2005). ISBN 0-07-225787-3
- *Barroso, Luiz Andre; Dean, Jeffrey; Hölzle, Urs (2003). "Web Search for a Planet: The Google Cluster Architecture". IEEE Micro. **23** (2): 22–28. doi:10.1109/MM.2003.1196112. ISSN 0272-1732. S2CID 15886858.*
- *Broderick, Ryan (August 28, 2023). "The end of the Googleverse". The Verge. Archived from the original on August 28, 2023. Retrieved August 30, 2023.*
- *Belanger, Ashley (October 27, 2023). "Google loses fight to hide 2021 money pit: $26B in default contracts". Ars Technica. Retrieved October 28, 2023.*

External links

[edit]

- Official website Image not found or type unknown Edit this at Wikidata
- Google Search home
- Google Trends home

- **v**
- **t**
- **e**

Google

a subsidiary of Alphabet

Company

Divisions

- AI
- *Area 120*
- ATAP
- *Brain*
- China
- Cloud Platform
- Energy
- Google.org
  - Crisis Response
- *Health*
- Registry

Subsidiaries

Active

- Security Operations
- DeepMind
- Fitbit
- ITA Software
- Jigsaw
- Looker
- Mandiant
- Owlchemy Labs

Defunct

- Actifio
- Adscape
- Akwan Information Technologies
- Anvato
- Apigee
- BandPage
- Bitium
- BufferBox
- Crashlytics
- Dodgeball
- DoubleClick
- Dropcam
- Endoxon
- Flutter
- Global IP Solutions
- Green Throttle Games
- GreenBorder
- Gridcentric
- ImageAmerica
- Impermium
- Invite Media
- Kaltix
- Marratech

Development

A–C

- Accelerated Linear Algebra
- AMP
- *Actions on Google*
- ALTS
- American Fuzzy Lop
- *Android Cloud to Device Messaging*
- Android Debug Bridge
- Android NDK
- Android Runtime
- Android SDK
- Android Studio
- Angular
- *AngularJS*
- Apache Beam
- APIs
- App Engine
- App Inventor
- *App Maker*
- App Runtime for Chrome
- *AppJet*
- Apps Script
- AppSheet
- ARCore
- *Base*
- Bazel
- BeyondCorp
- Bigtable
- BigQuery
- Bionic
- Blockly
- *Borg*
- *Caja*
- Cameyo
- Chart API
- Charts
- *Chrome Frame*
- Chromium
  - Blink
- Closure Tools
- *Cloud Connect*
- Cloud Dataflow
- Cloud Datastore
- *Cloud Messaging*
- Cloud Shell
- Cloud Storage

Software

A

- *Aardvark*
- Account
  - Dashboard
  - Takeout
- Ad Manager
- AdMob
- Ads
- AdSense
- *Affiliate Network*
- Alerts
- *Allo*
- Analytics
- Android Auto
- *Android Beam*
- *Answers*
- *Apture*
- Arts & Culture
- Assistant
- *Attribution*
- Authenticator

B

- *BebaPay*
- *BeatThatQuote.com*
- *Blog Search*
- Blogger
- *Body*
- *Bookmarks*
- Books
  - Ngram Viewer
- *Browser Sync*
- *Building Maker*
- *Bump*
- *BumpTop*
- *Buzz*

C

- Calendar
- Cast
- *Catalogs*
- Chat
- *Checkout*
- Chrome
- *Chrome Apps*
- Chrome Experiments
- Chrome Remote Desktop
- Chrome Web Store

Hardware

Pixel

Smartphones

- Pixel (2016)
- Pixel 2 (2017)
- Pixel 3 (2018)
- Pixel 3a (2019)
- Pixel 4 (2019)
- Pixel 4a (2020)
- Pixel 5 (2020)
- Pixel 5a (2021)
- Pixel 6 (2021)
- Pixel 6a (2022)
- Pixel 7 (2022)
- Pixel 7a (2023)
- Pixel Fold (2023)
- Pixel 8 (2023)
- Pixel 8a (2024)
- Pixel 9 (2024)
- Pixel 9 Pro Fold (2024)

Smartwatches

- Pixel Watch (2022)
- Pixel Watch 2 (2023)
- Pixel Watch 3 (2024)

Tablets

- Pixel C (2015)
- Pixel Slate (2018)
- Pixel Tablet (2023)

Laptops

- Chromebook Pixel (2013–2015)
- Pixelbook (2017)
- Pixelbook Go (2019)

Other

- Pixel Buds (2017–present)

Smartphones

- Nexus One (2010)
- Nexus S (2010)
- Galaxy Nexus (2011)
- Nexus 4 (2012)
- Nexus 5 (2013)
- Nexus 6 (2014)
- Nexus 5X (2015)
- Nexus 6P (2015)

- **v**
- **t**
- **e**

Litigation

Advertising	*Feldman v. Google, Inc.* (2007) *Rescuecom Corp. v. Google Inc.* (2009) *Goddard v. Google, Inc.* (2009) *Rosetta Stone Ltd. v. Google, Inc.* (2012) *Google, Inc. v. American Blind & Wallpaper Factory, Inc.* (2017) Jedi Blue
Antitrust	European Union (2010–present) *United States v. Adobe Systems, Inc., Apple Inc., Google Inc., Intel Corporation, Intuit, Inc., and Pixar* (2011) *Umar Javeed, Sukarma Thapar, Aaqib Javeed vs. Google LLC and Ors.* (2019) *United States v. Google LLC* (2020) *United States v. Google LLC* (2023)
Intellectual property	*Perfect 10, Inc. v. Amazon.com, Inc.* (2007) *Viacom International Inc. v. YouTube, Inc.* (2010) *Lenz v. Universal Music Corp.*(2015) *Authors Guild, Inc. v. Google, Inc.* (2015) *Field v. Google, Inc.* (2016) *Google LLC v. Oracle America, Inc.* (2021) Smartphone patent wars
Privacy	*Rocky Mountain Bank v. Google, Inc.* (2009) *Hibnick v. Google, Inc.* (2010) *United States v. Google Inc.* (2012) Judgement of the German Federal Court of Justice on Google's autocomplete function (2013) *Joffe v. Google, Inc.* (2013) *Mosley v SARL Google* (2013) *Google Spain v AEPD and Mario Costeja González* (2014) *Frank v. Gaos* (2019)
Other	*Garcia v. Google, Inc.* (2015) *Google LLC v Defteros* (2020) *Epic Games v. Google* (2021) *Gonzalez v. Google LLC* (2022)

Related

Concepts

- Beauty YouTuber
- BookTube
- BreadTube
- "Don't be evil"
- Gayglers
- *Google* as a verb
- Google bombing
  - 2004 U.S. presidential election
- Google effect
- Googlefight
- Google hacking
- Googleshare
- Google tax
- Googlewhack
- Googlization
- Illegal flower tribute
- Objectives and key results
- Rooting
- Search engine manipulation effect
- Side project time
- Sitelink
- Site reliability engineering
- StudyTube
- VTuber
- YouTube Poop
- YouTuber
  - list

Android

- Booting process
- Custom distributions
- Features
- Recovery mode
- Software development

Street View coverage

- Africa
- Antarctica
- Asia
  - Israel
- Europe
- North America
  - Canada
  - United States
- Oceania
- South America

Italics denote discontinued products.

- Image not found or type unknown Category
- Image not found or type unknown Outline

- **v**
- **t**
- **e**

Alphabet Inc.

Subsidiaries

Current

- Access
  - Google Fiber
- Calico
- CapitalG
- Google
  - DeepMind
    - AlphaFold
    - AlphaGo
      - vs. Fan Hui
      - vs. Ke Jie
      - vs. Lee Sedol
        - film
      - Future of Go Summit
    - AlphaGo Zero
    - AlphaStar
    - AlphaZero
    - Master
    - MuZero
    - WaveNet
  - DoubleClick
  - Firebase
  - Fitbit
  - Tenor
  - Waze
  - YouTube
- GV
- Isomorphic Labs
- Verily
  - Baseline Study
- X Development
- Waymo
- Wing

Former

- Boston Dynamics
- Chronicle Security
- Jigsaw
- Loon
- Makani
- Meka Robotics
- Nest Labs
- Sidewalk Labs
  - Toronto
- Vicarious

Executives

Current

- Sundar Pichai (CEO)
- Ruth Porat (president and CIO)
- Anat Ashkenazi (CFO)

Former

- Larry Page (CEO)
- Sergey Brin (President)
- David Drummond (CLO)

People

Board of directors

Current

- Frances Arnold
- Sergey Brin
- R. Martin Chavez
- John Doerr
- John L. Hennessy
- Ann Mather
- Larry Page
- Sundar Pichai
- Ram Shriram
- Roger W. Ferguson Jr.

Former

- Diane Greene
- Alan Mulally
- Eric Schmidt

Others

- Andrew Conrad
- Tony Fadell
- Arthur D. Levinson
- David Krane
- Astro Teller

- Image not found or type unknown Category
- Image not found or type unknown Companies portal icon
- Image not found or type unknown Internet portal

- **v**
- **t**
- **e**

Android

- Android Go
  - Comparison of products

Software development

Development tools

Official

- Android Runtime (ART)
- Software development kit (SDK)
  - Android Debug Bridge (ADB)
  - Fastboot
  - Android App Bundle
  - Android application package (APK)
- Bionic
- Dalvik
- Firebase
  - Google Cloud Messaging (GCM)
  - Firebase Cloud Messaging (FCM)
- Google Mobile Services (GMS)
- Native development kit (NDK)
- Open accessory development kit (OADK)
- RenderScript
- Skia
- AdMob
- Material Design
- Fonts
  - Droid
  - Roboto
  - Noto
- Google Developers

Other

- OpenBinder
- Apache Harmony
- OpenJDK
- Gradle

Integrated development environments (IDE)

- Android Studio
  - IntelliJ IDEA
- Eclipse
  - Android Development Tools (ADT)
- MIT App Inventor

Languages, databases

- Java
- Kotlin
- XML
- C
- C++
- SQLite

Extended

- Android XR
- Cardboard

Releases

- Cupcake (1.5)
- Donut (1.6)
- Eclair (2.0–2.1)
- Froyo (2.2)
- Gingerbread (2.3)
- Honeycomb (3.x)
- Ice Cream Sandwich (4.0)
- Jelly Bean (4.1–4.3)
- KitKat (4.4)
- Lollipop (5.x)
- Marshmallow (6.0)
- Nougat (7.x)
- Oreo (8.x)
- Pie (9)
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Derivatives

- Android Automotive
- Android Things
- TV
  - devices
- Android XR
- Wear OS

- **Devices**
  - **Pixel**
    - C
    - Pixel & Pixel XL
    - 2 & 2 XL
    - 3 & 3 XL
      - 3a & 3a XL
    - 4 & 4 XL
      - 4a & 4a (5G)
    - 5
      - 5a
    - 6 & 6 Pro
      - 6a
    - 7 & 7 Pro
      - 7a
    - Fold
    - Tablet
    - 8 & 8 Pro
      - 8a
    - 9, 9 Pro & 9 Pro XL
      - 9 Pro Fold
  - **Nexus**
    - One
    - S
    - Galaxy Nexus
    - 4
    - 10
    - Q
    - 5
      - 5X
    - 6
      - 6P
    - 7
      - 2012
      - 2013
    - 9
    - Player
  - **Play edition**
    - HTC One (M7)
    - HTC One (M8)
    - LG G Pad 8.3
    - Moto G
    - Samsung Galaxy S4
    - Sony Xperia Z Ultra
- Android One
- other smartphones

Custom distributions

- AliOS
- Android-x86
  - Remix OS
- AOKP
- Baidu Yi
- Barnes & Noble Nook
- CalyxOS
- ColorOS
  - realme UI
- CopperheadOS
- EMUI
  - Magic UI
- Fire OS
- Flyme OS
- GrapheneOS
- Xiaomi HyperOS
  - MIUI
  - MIUI for Poco
- LeWa OS
- LineageOS
  - /e/
  - CrDroid
  - CyanogenMod
  - DivestOS
  - iodéOS
  - Kali NetHunter
- LiteOS
- Meta Horizon OS
- MicroG
- Nokia X software platform
- OmniROM
- OPhone
- OxygenOS
- PixelExperience
- Pixel UI
- Replicant
- Resurrection Remix OS
- SlimRoms
- TCL UI
- Ubuntu for Android
- XobotOS
- ZUI

Booting and recovery	○ Booting process
	○ Recovery mode
	  ○ TWRP
	  ○ ClockworkMod
	○ Fastboot

APIs	○ Google Maps ○ Google Play Services ○ SafetyNet ○ Google Search

Alternative UIs	○ Asus ZenFone
	○ Cherry OS
	○ ColorOS
	○ EMUI
	○ Funtouch OS
	○ Flyme OS
	○ HiOS
	○ Hive UI (XOLO Hive)
	○ HTC Sense
	○ LG UX
	  ○ Optimus UI
	○ Motoblur
	○ One UI
	○ Origin OS
	  ○ Experience
	  ○ TouchWiz
	○ OxygenOS
	○ Pixel UI
	○ XOS
	○ Xperia UI

Rooting	○ SuperSU ○ Magisk ○ Kingo Root
Lists	○ Custom distributions ○ Features ○ Free and open-source applications ○ Google apps ○ Launchers

Related topics

- Index of articles
- Androidland
- Chromecast
- Google
- Java vs. Android API
- Lawn statues
- BlueStacks
- Legal issues
  - *Google v. Oracle*
  - smartphone patent wars

- Image not found or type unknown Category:Android development
- Image not found or type unknown Category:Mobile telecommunications
- Image not found or type unknown Software portal
- Image not found or type unknown Telecommunication portal

- **v**
- **t**
- **e**

Web search engines

Active

Dedicated

- AOL
- Ahmia
- Ask.com
- Baidu
- Bing
- Blackle
- Brave
- DuckDuckGo
- Ecosia
- Fireball
- Google
- Kiddle
- KidRex
- KidzSearch
- Lycos
- Mojeek
- Naver
- Parsijoo
- Perplexity AI
- Petal
- Seznam.cz
- Sogou
- Swisscows
- WebCrawler
- Yahoo!
- Yandex
- Youdao

Metasearch engines

- Dogpile
- Excite
- Info.com
- Kagi
- MetaCrawler
- MetaGer
- Mullvad Leta
- SearXNG
- Startpage
- Qwant

Defunct or Inactive	○ 123people ○ A9.com ○ Aliweb ○ AlltheWeb ○ AltaVista ○ Blekko ○ Boogami ○ Cuil ○ Empas ○ Forestle ○ GenieKnows ○ Gigablast ○ Go.com ○ HotBot ○ Infoseek ○ Inktomi ○ JumpStation ○ LeapFish ○ Neeva ○ Northern Light ○ Pipilika ○ Powerset ○ Scroogle ○ SearchMe ○ Searx ○ Soso ○ Sputnik ○ Teoma ○ Viewzi ○ Vivisimo ○ Volunia ○ W3Catalog ○ Wikiseek ○ Yebol ○ Yippy ○ Yooz

- Comparison
- Complete list

Authority control databases Image not found or type unknown **Edit this at Wikidata**

International	○ VIAF ○ FAST
National	○ Germany ○ United States ○ France ○ BnF data ○ Czech Republic ○ Norway ○ Israel

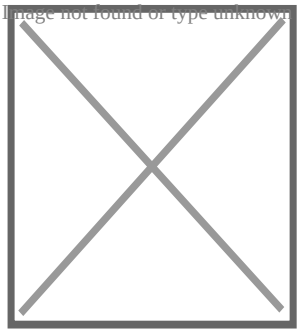
About MediaWiki

Not to be confused with Wikimedia.

This article **relies excessively on references to primary sources**. Please improve this article by adding secondary or tertiary sources.
Find sources: "MediaWiki" – news · newspapers · books · scholar · JSTOR *(January 2025)*
(Learn how and when to remove this message)

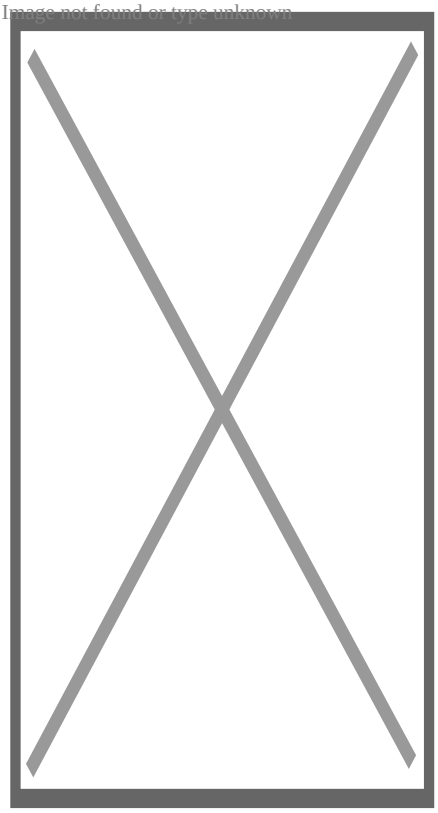
- gerrit.wikimedia.org/g/mediawiki/core/ Image not found or type unknown Edit this at Wikidata

MediaWiki



Screenshot

Image not found or type unknown



The Main Page of the English Wikipedia running an alpha version of MediaWiki 1.40

Original author(s)	○ Magnus Manske ○ Lee Daniel Crocker
Developer(s)	Wikimedia Foundation
Initial release	January 25, 2002; 23 years ago
Stable release	1.43.0[1] / 21 December 2024; 2 months ago
Repository	
Written in	PHP[2]
Operating system	Windows, macOS, Linux, FreeBSD, OpenBSD, Solaris
Size	79.05 MiB (compressed)
Available in	459[3] languages

Image not found or type unknown Edit this on Wikidata

Type	Wiki software
License	GPLv2+[4]
Website	mediawiki.org Image not found or type unknown Edit this at Wikidata

MediaWiki is free and open-source wiki software originally developed by Magnus Manske for use on Wikipedia on January 25, 2002, and further improved by Lee Daniel Crocker,[5][6] after which development has been coordinated by the Wikimedia Foundation. It powers several wiki hosting websites across the Internet, as well as most websites hosted by the Wikimedia Foundation including Wikipedia, Wiktionary, Wikimedia Commons, Wikiquote, Meta-Wiki and Wikidata, which define a large part of the set requirements for the software.[7] Besides its usage on Wikimedia sites, MediaWiki has been used as a knowledge management and content management system on websites such as Fandom, wikiHow and major internal installations like Intellipedia and Diplopedia.

MediaWiki is written in the PHP programming language and stores all text content into a database. The software is optimized to efficiently handle large projects, which can have terabytes of content and hundreds of thousands of views per second.[7][8] Because Wikipedia is one of the world's largest and most visited websites, achieving scalability through multiple layers of caching and database replication has been a major concern for developers. Another major aspect of MediaWiki is its internationalization; its interface is available in more than 400 languages.[9] The software has hundreds of configuration settings[10] and more than 1,000 extensions available for enabling various features to be added or changed.[11]

Key features

[edit]

MediaWiki provides a rich core feature set and a mechanism to attach extensions to provide additional functionality.

Internationalization and localisation

[edit]

> Niklas Laxström explains the features that allowed translatewiki.net to provide MediaWiki with more than 400 locales.

Due to the strong emphasis on multilingualism in the Wikimedia projects, internationalization and localization has received significant attention by developers. The user interface has been fully or partially translated into more than 400 languages on translatewiki.net,[9] and can be further customized by site administrators (the entire interface is editable through the wiki).

Several extensions, most notably those collected in the MediaWiki Language Extension Bundle, are designed to further enhance the multilingualism and internationalization of MediaWiki.

Installation and configuration

[edit]

Installation of MediaWiki requires that the user have administrative privileges on a server running both PHP and a compatible type of SQL database. Some users find that setting up a virtual host is helpful if the majority of one's site runs under a framework (such as Zope or Ruby on Rails) that is largely incompatible with MediaWiki.[12] Cloud hosting can eliminate the need to deploy a new server.[13]

An installation PHP script is accessed via a web browser to initialize the wiki's settings. It prompts the user for a minimal set of required parameters, leaving further changes, such as enabling uploads,[14] adding a site logo,[15] and installing extensions, to be made by modifying configuration settings contained in a file called LocalSettings.php.[16] Some aspects of MediaWiki can be configured through special pages or by editing certain pages; for instance, abuse filters can be configured through a special page,[17] and certain gadgets can be added by creating JavaScript pages in the MediaWiki namespace.[18] The MediaWiki community publishes a comprehensive installation guide.[19]

Markup

[edit]

One of the earliest differences between MediaWiki (and its predecessor, UseModWiki) and other wiki engines was the use of "free links" instead of CamelCase. When MediaWiki was created, it was typical for wikis to require text like "WorldWideWeb" to create a link to a page about the World Wide Web; links in MediaWiki, on the other hand, are created by surrounding words with double square brackets, and any spaces between them are left intact, e.g. [[World Wide Web]]. This change was logical for the purpose of creating an encyclopedia, where accuracy in titles is important.

MediaWiki uses an extensible[20] lightweight wiki markup designed to be easier to use and learn than HTML. Tools exist for converting content such as tables between MediaWiki markup and HTML.[21] Efforts have been made to create a MediaWiki markup spec, but a consensus seems to have been reached that Wikicode requires context-sensitive grammar rules.[22][23] The following side-by-side comparison illustrates the differences between wiki markup and HTML:

MediaWiki syntax
(the "behind the scenes
used to add formatting t

====A dialogue====
"Take some more [[tea]]," the March Hare said to Alice, very earnestly.

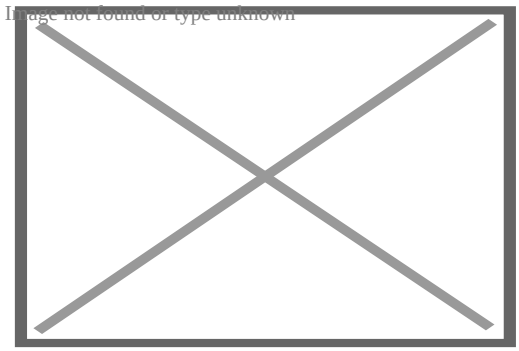
"I've had nothing yet," Alice replied in an offended tone: "so I can't take more."

"You mean you can't take "less"," said the Hatter: "it's '"very"' easy to take "more" than nothing."

(Quotation above from *Alice's Adventures in Wonderland* by Lewis Carroll)

Editing interface

[edit]
See also: VisualEditor



Editing interface of MediaWiki 1.44.0-wmf.4 with syntax highlighting, showing the edit toolbar of 2017 wikitext editor and some examples of wiki syntax

MediaWiki's default page-editing tools have been described as somewhat challenging to learn.[24] A survey of students assigned to use a MediaWiki-based wiki found that when they were asked an open question about main problems with the wiki, 24% cited technical problems with formatting, e.g. "Couldn't figure out how to get an image in. Can't figure out how to show a link with words; it inserts a number."[25]

To make editing long pages easier, MediaWiki allows the editing of a subsection of a page (as identified by its header). A registered user can also indicate whether or not an edit is minor. Correcting spelling, grammar or punctuation are examples of minor edits, whereas adding paragraphs of new text is an example of a non-minor edit.

Sometimes while one user is editing, a second user saves an edit to the same part of the page. Then, when the first user attempts to save the page, an edit conflict occurs. The second user is then given an opportunity to merge their content into the page as it now exists following the first user's page save.

MediaWiki's user interface has been localized in many different languages. A language for the wiki content itself can also be set, to be sent in the "Content-Language" HTTP header and "lang" HTML attribute.

VisualEditor has its own integrated wikitext editing interface known as 2017 wikitext editor, the older editing interface is known as 2010 wikitext editor.

Application programming interface

[edit]

MediaWiki has an extensible web API (application programming interface) that provides direct, high-level access to the data contained in the MediaWiki databases. Client programs can use the API to log in, get data, and post changes. The API supports thin web-based JavaScript clients and end-user applications (such as vandal-fighting tools). The API can be accessed by the backend of another web site.[26] An extensive Python bot library, Pywikibot,[27] and a popular semi-automated tool called AutoWikiBrowser, also interface with the API.[28] The API is accessed via URLs such as https://en.wikipedia.org/w/api.php?action=query&list=recentchanges. In this case, the query would be asking Wikipedia for information relating to the last 10 edits to the site. One of the perceived advantages of the API is its language independence; it listens for HTTP connections from clients and can send a response in a variety of formats, such as XML, serialized PHP, or JSON.[29] Client code has been developed to provide layers of abstraction to the API.[30]

Tracking edits

[edit]

Among the features of MediaWiki to assist in tracking edits is a Recent Changes feature that provides a list of recent edits to the wiki. This list contains basic information about those edits such as the editing user, the edit summary, the page edited, as well as any tags (e.g. "possible vandalism")[31] added by customizable abuse filters and other extensions to aid in combating unhelpful edits.[32] On more active wikis, so many edits occur that it is hard to track Recent Changes manually. Anti-vandal software, including user-assisted tools,[33] is sometimes employed on such wikis to process Recent Changes items. Server load can be reduced by sending a continuous feed of Recent Changes to an IRC channel that these tools can monitor, eliminating their need to send requests for a refreshed Recent Changes feed to the API.[34][35]

Another important tool is watchlisting. Each logged-in user has a watchlist to which the user can add whatever pages he or she wishes. When an edit is made to one of those pages, a summary of that edit appears on the watchlist the next time it is refreshed.[36] As with the recent changes page, recent edits that appear on the watchlist contain clickable links for easy review of the article history

and specific changes made.

There is also the capability to review all edits made by any particular user. In this way, if an edit is identified as problematic, it is possible to check the user's other edits for issues.

MediaWiki allows one to link to specific versions of articles. This has been useful to the scientific community, in that expert peer reviewers could analyse articles, improve them and provide links to the trusted version of that article.[37]

Navigation

[edit]

Wikilinks

[edit]

Navigation through the wiki is largely through internal wikilinks. MediaWiki's wikilinks implement page existence detection, in which a link is colored blue if the target page exists on the local wiki and red if it does not. If a user clicks on a red link, they are prompted to create an article with that title. Page existence detection makes it practical for users to create "wikified" articles—that is, articles containing links to other pertinent subjects—without those other articles being yet in existence.

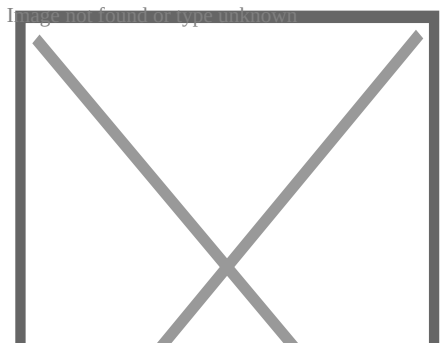
Interwiki links

[edit]
"Inter-wiki link" redirects here. For help with interwiki linking on Wikipedia, see Help:Interwiki linking .

Interwiki links function much the same way as namespaces. A set of interwiki prefixes can be configured to cause, for instance, a page title of wikiquote:Jimbo Wales to direct the user to the Jimbo Wales article on Wikiquote.[38] Unlike internal wikilinks, interwiki links lack page existence detection functionality, and accordingly there is no way to tell whether a blue interwiki link is broken or not.

Interlanguage links

[edit]



An example of interlanguage links

Interlanguage links are the small navigation links that show up in the sidebar in most MediaWiki skins that connect an article with related articles in other languages within the same Wiki family. This can provide language-specific communities connected by a larger context, with all wikis on the same server or each on its own server.[39]

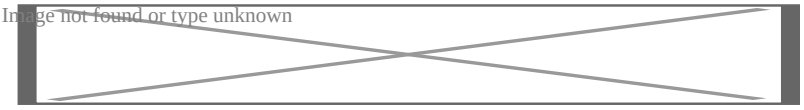
Previously, Wikipedia used interlanguage links to link an article to other articles on the same topic in other editions of Wikipedia. This was superseded by the launch of Wikidata.[40]

Content organization

[edit]

Page tabs and associated pages

[edit]



MediaWiki page tabs, using the "Vector 2010" skin. The red coloration of the "discussion" tab indicates that the article does not yet have a talk page. As with any other red wikilink, clicking on it prompts the user to create the page.

Page tabs are displayed at the top of pages. These tabs allow users to perform actions or view pages that are related to the current page. The available default actions include viewing, editing, and discussing the current page. The specific tabs displayed depend on whether the user is logged into the wiki and whether the user has sysop privileges on the wiki. For instance, the ability to move a page or add it to one's watchlist is usually restricted to logged-in users. The site administrator can add or remove tabs by using JavaScript or installing extensions.[41]

Each page has an associated history page from which the user can access every version of the page that has ever existed and generate diffs between two versions of his choice. Users' contributions are displayed not only here, but also via a "user contributions" option on a sidebar. In a 2004 article, Carl Challborn and Teresa Reimann noted that "While this feature may be a slight deviation from the collaborative, 'ego-less' spirit of wiki purists, it can be very useful for educators who need to assess the contribution and participation of individual student users."[42]

Namespaces

[edit]
"Talk page" redirects here. For talk pages on Wikipedia, see Help:Talk pages.

MediaWiki provides many features beyond hyperlinks for structuring content. One of the earliest such features is *namespaces*. One of Wikipedia's earliest problems had been the separation of

encyclopedic content from pages pertaining to maintenance and communal discussion, as well as personal pages about encyclopedia editors. Namespaces are prefixes before a page title (such as " User:" or "Talk:") that serve as descriptors for the page's purpose and allow multiple pages with different functions to exist under the same title. For instance, a page titled "[[The Terminator]]", in the default namespace, could describe the 1984 movie starring Arnold Schwarzenegger, while a page titled "[[User:The Terminator]]" could be a profile describing a user who chooses this name as a pseudonym. More commonly, each namespace has an associated "Talk:" namespace, which can be used to discuss its contents, such as "User talk:" or "Template talk:". The purpose of having discussion pages is to allow content to be separated from discussion surrounding the content.[43][44]

Namespaces can be viewed as folders that separate different basic types of information or functionality. Custom namespaces can be added by the site administrators. There are 16 namespaces by default for content, with 2 "pseudo-namespaces" used for dynamically generated " Special:" pages and links to media files. Each namespace on MediaWiki is numbered: content page namespaces have even numbers and their associated talk page namespaces have odd numbers.[45]

Category tags

[edit]

Users can create new categories and add pages and files to those categories by appending one or more category tags to the content text. Adding these tags creates links at the bottom of the page that take the reader to the list of all pages in that category, making it easy to browse related articles.[46] The use of categorization to organize content has been described as a combination of:

- Collaborative tagging systems like del.icio.us and
- Hierarchical classifications like the Dewey Decimal Classification.[47]

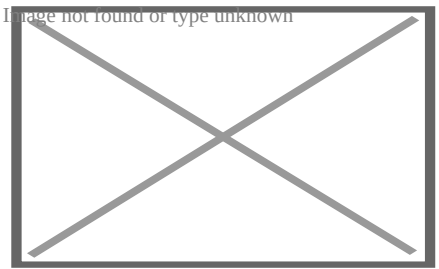
Subpages

[edit]

In addition to namespaces, content can be ordered using *subpages*. This simple feature provides automatic breadcrumbs of the pattern [[Page title/Subpage title]] from the page after the slash (in this case, "Subpage title") to the page before the slash (in this case, "Page title").

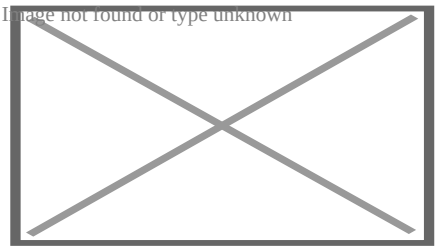
Customization

[edit]



Users can configure custom JavaScript that is executed on every pageview. This has led to JavaScript tools that users can "install", the "navigation popups" tool shown here displays a small preview of an article when hovering over a link title.

If the feature is enabled, users can customize their stylesheets and configure client-side JavaScript to be executed with every pageview. On Wikipedia, this has led to a large number of additional tools and helpers developed through the wiki and shared among users. For instance, *navigation popups* is a custom JavaScript tool that shows previews of articles when the user hovers over links and also provides shortcuts for common maintenance tasks.[48]



A screenshot of a wiki using MediaWiki with a customized skin

The entire MediaWiki user interface can be edited through the wiki itself by users with the necessary permissions (typically called "administrators"). This is done through a special namespace with the prefix "MediaWiki:", where each page title identifies a particular user interface message. Using an extension,[49] it is also possible for a user to create personal scripts, and to choose whether certain sitewide scripts should apply to them by toggling the appropriate options in the user preferences page.

Templates

[edit]

The "MediaWiki:" namespace was originally also used for creating custom text blocks that could then be dynamically loaded into other pages using a special syntax. This content was later moved into its own namespace, "Template:".

Templates are text blocks that can be dynamically loaded inside another page whenever that page is requested. The template is a special link in double curly brackets (for example "date=October 2018"), which calls the template (in this case located at Template:Disputed) to load in place of the template call.

Templates are structured documents containing attribute–value pairs. They are defined with parameters, to which are assigned values when transcluded on an article page. The name of the parameter is delimited from the value by an equals sign. A class of templates known as infoboxes is used on Wikipedia to collect and present a subset of information about its subject, usually on the top (mobile view) or top right-hand corner (desktop view) of the document.

Pages in other namespaces can also be transcluded as templates. In particular, a page in the main namespace can be transcluded by prefixing its title with a colon; for example, :MediaWiki

transcludes the article "MediaWiki" from the main namespace. Also, it is possible to mark the portions of a page that should be transcluded in several ways, the most basic of which are:[50]

- <noinclude>...</noinclude>, which marks content that is not to be transcluded;
- <includeonly>...</includeonly>, which marks content that is not rendered unless it is transcluded;
- <onlyinclude>...</onlyinclude>, which marks content that is to be the *only* content transcluded.

A related method, called template *substitution* (called by adding subst: at the beginning of a template link) inserts the contents of the template into the target page (like a copy and paste operation), instead of loading the template contents dynamically whenever the page is loaded. This can lead to inconsistency when using templates, but may be useful in certain cases, and in most cases requires fewer server resources (the actual amount of savings can vary depending on wiki configuration and the complexity of the template).

Templates have found many different uses. Templates enable users to create complex table layouts that are used consistently across multiple pages, and where only the content of the tables gets inserted using template parameters. Templates are frequently used to identify problems with a Wikipedia article by putting a template in the article. This template then outputs a graphical box stating that the article content is disputed or in need of some other attention, and also categorize it so that articles of this nature can be located. Templates are also used on user pages to send users standard messages welcoming them to the site,[51] giving them awards for outstanding contributions,[52][53] warning them when their behavior is considered inappropriate,[54] notifying them when they are blocked from editing,[55] and so on.

Groups and restriction of access

[edit]

MediaWiki offers flexibility in creating and defining user groups. For instance, it would be possible to create an arbitrary "ninja" group that can block users and delete pages, and whose edits are hidden by default in the recent changes log. It is also possible to set up a group of "autoconfirmed" users that one becomes a member of after making a certain number of edits and waiting a certain number of days.[56] Some groups that are enabled by default are bureaucrats and sysops. Bureaucrats have the power to change other users' rights. Sysops have power over page protection and deletion and the blocking of users from editing. MediaWiki's available controls on editing rights have been deemed sufficient for publishing and maintaining important documents such as a manual of standard operating procedures in a hospital.[57]

MediaWiki comes with a basic set of features related to restricting access, but its original and ongoing design is driven by functions that largely relate to content, not content segregation. As a result, with minimal exceptions (related to specific tools and their related "Special" pages), page access control has never been a high priority in core development and developers have stated that users requiring secure user access and authorization controls should not rely on MediaWiki, since it was never designed for these kinds of situations. For instance, it is extremely difficult to create a

wiki where only certain users can read and access some pages.[58] Here, wiki engines like Foswiki , MoinMoin and Confluence provide more flexibility by supporting advanced security mechanisms like access control lists.

Extensibility

[edit]

The MediaWiki codebase contains various hooks using callback functions to add additional PHP code in an extensible way. This allows developers to write extensions without necessarily needing to modify the core or having to submit their code for review. Installing an extension typically consists of adding a line to the configuration file, though in some cases additional changes such as database updates or core patches are required.

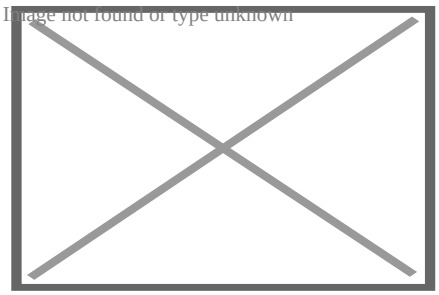
Five main extension points were created to allow developers to add features and functionalities to MediaWiki. Hooks are run every time a certain event happens; for instance, the ArticleSaveComplete hook occurs after a save article request has been processed.[59] This can be used, for example, by an extension that notifies selected users whenever a page edit occurs on the wiki from new or anonymous users.[60] New tags can be created to process data with opening and closing tags (<newtag>...</newtag>).[61] Parser functions can be used to create a new command (...).[62] New special pages can be created to perform a specific function. These pages are dynamically generated. For example, a special page might show all pages that have one or more links to an external site or it might create a form providing user submitted feedback.[63] Skins allow users to customize the look and feel of MediaWiki.[64] A minor extension point allows the use of Amazon S3 to host image files.[65]

Extensions

[edit]

Text manipulation

[edit]



Tim Starling in 2008

Among the most popular extensions is a parser function extension, ParserFunctions, which allows different content to be rendered based on the result of conditional statements.[66] These conditional statements can perform functions such as evaluating whether a parameter is empty,

comparing strings, evaluating mathematical expressions, and returning one of two values depending on whether a page exists. It was designed as a replacement for a notoriously inefficient template called Qif.[67] Schindler recounts the history of the ParserFunctions extension as follows:[68]

> In 2006 some Wikipedians discovered that through an intricate and complicated interplay of templating features and CSS they could create conditional wiki text, i.e. text that was displayed if a template parameter had a specific value. This included repeated calls of templates within templates, which bogged down the performance of the whole system. The developers faced the choice of either disallowing the spreading of an obviously desired feature by detecting such usage and explicitly disallowing it within the software or offering an efficient alternative. The latter was done by Tim Starling, who announced the introduction of parser functions, wiki text that calls functions implemented in the underlying software. At first, only conditional text and the computation of simple mathematical expressions were implemented, but this already increased the possibilities for wiki editors enormously. With time further parser functions were introduced, finally leading to a framework that allowed the simple writing of extension functions to add arbitrary functionalities, like e.g. geo-coding services or widgets. This time the developers were clearly reacting to the demand of the community, being forced either to fight the solution of the issue that the community had (i.e. conditional text), or offer an improved technical implementation to replace the previous practice and achieve an overall better performance.

Another parser functions extension, StringFunctions, was developed to allow evaluation of string length, string position, and so on. Wikimedia communities, having created awkward workarounds to accomplish the same functionality,[69] clamored for it to be enabled on their projects.[70] Much of its functionality was eventually integrated into the ParserFunctions extension,[71] albeit disabled by default and accompanied by a warning from Tim Starling that enabling string functions would allow users "to implement their own parsers in the ugliest, most inefficient programming language known to man: MediaWiki wikitext with ParserFunctions."[72]

Since 2012 an extension, Scribunto, has existed that allows for the creation of "modules"—wiki pages written in the scripting language Lua—which can then be run within templates and standard wiki pages. Scribunto has been installed on Wikipedia and other Wikimedia sites since 2013 and is used heavily on those sites. Scribunto code runs significantly faster than corresponding wikitext code using ParserFunctions.[73]

For footnotes and academic-related display

[edit]

Another very popular extension is a citation extension that enables footnotes to be added to pages using inline references.[74] This extension has, however, been criticized for being difficult to use and requiring the user to memorize complex syntax. A gadget called RefToolbar attempts to make it easier to create citations using common templates. MediaWiki has some extensions that are well-

suited for academia, such as mathematics extensions[75] and an extension that allows molecules to be rendered in 3D.[76]

Integration

[edit]

A generic Widgets extension exists that allows MediaWiki to integrate with virtually anything. Other examples of extensions that could improve a wiki are category suggestion extensions[77] and extensions for inclusion of Flash Videos,[78] YouTube videos,[79] and RSS feeds.[80] Metavid, a site that archives video footage of the U.S. Senate and House floor proceedings, was created using code extending MediaWiki into the domain of collaborative video authoring.[81]

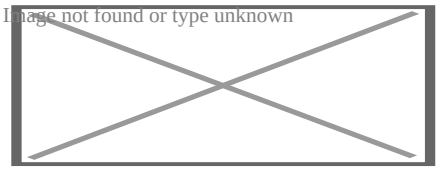
Combating linkspam

[edit]

There are many spambots that search the web for MediaWiki installations and add linkspam to them, despite the fact that MediaWiki uses the nofollow attribute to discourage such attempts at search engine optimization.[82] Part of the problem is that third party republishers, such as mirrors, may not independently implement the nofollow tag on their websites, so marketers can still get PageRank benefit by inserting links into pages when those entries appear on third party websites.[83] Anti-spam extensions have been developed to combat the problem by introducing CAPTCHAs,[84] blacklisting certain URLs,[85] and allowing bulk deletion of pages recently added by a particular user.[86]

Searches and queries

[edit]



A search box showing a drop-down list

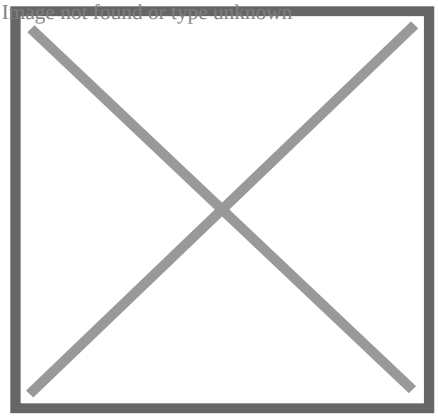
MediaWiki comes pre-installed with a standard text-based search. Extensions exist to let MediaWiki use more sophisticated third-party search engines, including Elasticsearch (which since 2014 has been in use on Wikipedia), Lucene[87] and Sphinx.[88]

Various MediaWiki extensions have also been created to allow for more complex, faceted search, on both data entered within the wiki and on metadata such as pages' revision history.[89][90] Semantic MediaWiki is one such extension.[91][92]

Rich content

[edit]

Image not found or type unknown



Images can be arranged in galleries, a feature that is used extensively for Wikimedia's media archive, Wikimedia Commons.

Various extensions to MediaWiki support rich content generated through specialized syntax. These include mathematical formulas using LaTeX, graphical timelines over mathematical plotting, musical scores and Egyptian hieroglyphs.

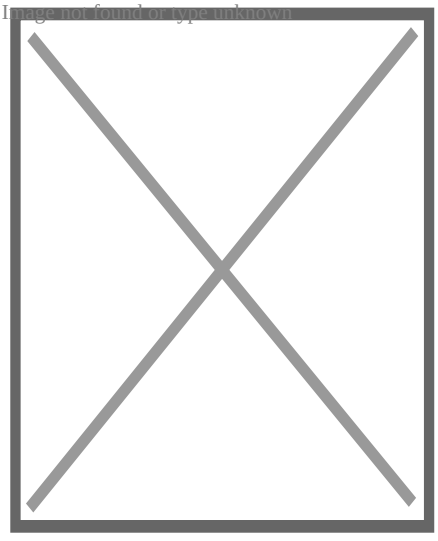
The software supports a wide variety of uploaded media files, and allows image galleries and thumbnails to be generated with relative ease. There is also support for Exif metadata. MediaWiki operates the Wikimedia Commons, one of the largest free content media archives.

For WYSIWYG editing, VisualEditor is available to use in MediaWiki which simplifying editing process for editors and has been bundled since MediaWiki 1.35.[93] Other extensions exist for handling WYSIWYG editing to different degrees.[94]

Database

[edit]

Image not found or type unknown



A schematic of the MediaWiki database structure

MediaWiki can use either the MySQL/MariaDB, PostgreSQL or SQLite relational database management system. Support for Oracle Database and Microsoft SQL Server has been dropped since MediaWiki 1.34.[95] A MediaWiki database contains several dozen tables, including a page table that contains page titles, page ids, and other metadata;[96] and a revision table to which is added a new row every time an edit is made, containing the page id, a brief textual summary of the change performed, the user name of the article editor (or its IP address the case of an unregistered user) and a timestamp.[97][98]

In a 4½ year period prior to 2008, the MediaWiki database had 170 schema versions.[99] Possibly the largest schema change was done in 2005 with MediaWiki 1.5, when the storage of metadata was separated from that of content, to improve performance flexibility. When this upgrade was applied to Wikipedia, the site was locked for editing, and the schema was converted to the new version in about 22 hours. Some software enhancement proposals, such as a proposal to allow sections of articles to be watched via watchlist, have been rejected because the necessary schema changes would have required excessive Wikipedia downtime.[100]

Performance and storage

[edit]

Because it is used to run one of the highest-traffic sites on the Web, Wikipedia, MediaWiki's performance and scalability have been highly optimized.[101] MediaWiki supports Squid, load-balanced database replication, client-side caching, memcached or table-based caching for frequently accessed processing of query results, a simple static file cache, feature-reduced operation, revision compression, and a job queue for database operations. MediaWiki developers have attempted to optimize the software by avoiding expensive algorithms, database queries, etc., caching every result that is expensive and has temporal locality of reference, and focusing on the hot spots in the code through profiling.[102]

MediaWiki code is designed to allow for data to be written to a read-write database and read from read-only databases, although the read-write database can be used for some read operations if the read-only databases are not yet up to date. Metadata, such as article revision history, article relations (links, categories etc.), user accounts and settings can be stored in core databases and cached; the actual revision text, being more rarely used, can be stored as append-only blobs in external storage. The software is suitable for the operation of large-scale wiki farms such as Wikimedia, which had about 800 wikis as of August 2011. However, MediaWiki comes with no built-in GUI to manage such installations.

Empirical evidence shows most revisions in MediaWiki databases tend to differ only slightly from previous revisions. Therefore, subsequent revisions of an article can be concatenated and then compressed, achieving very high data compression ratios of up to 100×.[102]

For more information on the architecture, such as how it stores wikitext and assembles a page, see *External links*.

Limitations

[edit]

The parser serves as the *de facto* standard for the MediaWiki syntax, as no formal syntax has been defined. Due to this lack of a formal definition, it has been difficult to create WYSIWYG editors for MediaWiki, although several WYSIWYG extensions do exist, including the popular VisualEditor.

MediaWiki is not designed to be a suitable replacement for dedicated online forum or blogging software,[103] although extensions do exist to allow for both of these.[104][105]

It is common for new MediaWiki users to make certain mistakes, such as forgetting to sign posts with four tildes (~~~~),[106] or manually entering a plaintext signature,[107] due to unfamiliarity with the idiosyncratic particulars involved in communication on MediaWiki discussion pages. On the other hand, the format of these discussion pages has been cited as a strength by one educator, who stated that it provides more fine-grain capabilities for discussion than traditional threaded discussion forums. For example, instead of 'replying' to an entire message, the participant in a discussion can create a hyperlink to a new wiki page on any word from the original page. Discussions are easier to follow since the content is available via hyperlinked wiki page, rather than a series of reply messages on a traditional threaded discussion forum. However, except in few cases, students were not using this capability, possibly because of their familiarity with the traditional linear discussion style and a lack of guidance on how to make the content more 'link-rich '.[108]

MediaWiki by default has little support for the creation of dynamically assembled documents, or pages that aggregate data from other pages. Some research has been done on enabling such features directly within MediaWiki.[109] The Semantic MediaWiki extension provides these features. It is not in use on Wikipedia, but in more than 1,600 other MediaWiki installations.[110] The Wikibase Repository and Wikibase Repository client are however implemented in Wikidata and Wikipedia respectively, and to some extent provides semantic web features, and linking of centrally stored data to infoboxes in various Wikipedia articles.

Upgrading MediaWiki is usually fully automated, requiring no changes to the site content or template programming. Historically troubles have been encountered when upgrading from significantly older versions.[111]

Security

[edit]

MediaWiki developers have enacted security standards, both for core code and extensions.[112] SQL queries and HTML output are usually done through wrapper functions that handle validation, escaping, filtering for prevention of cross-site scripting and SQL injection.[113] Many security issues have had to be patched after a MediaWiki version release,[114] and accordingly MediaWiki.org states, "The most important security step you can take is to keep your software up to date" by subscribing to the announcement mailing list and installing security updates that are

announced.[115]

Support

[edit]

Support for MediaWiki users consists of:

- MediaWiki.org, including the Support Desk.
- An official mailing list, Mediawiki-l.
- Several books have been written about MediaWiki administration,[116] including some free online books.[117][118]

License

[edit]

MediaWiki is free and open-source and is distributed under the terms of the GNU General Public License version 2 or any later version. Its documentation, located at its official website at www.mediawiki.org, is released under the Creative Commons BY-SA 4.0 license, with a set of help pages intended to be freely copied into fresh wiki installations and/or distributed with MediaWiki software in the public domain instead to eliminate legal issues for wikis with other licenses.[119][120] MediaWiki's development has generally favored the use of open-source media formats.[121]

Development

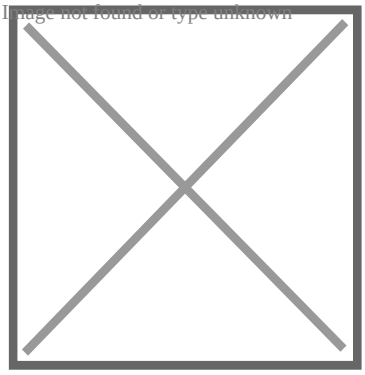
[edit]

MediaWiki has an active volunteer community for development and maintenance. MediaWiki developers are spread around the world, though with a majority in the United States and Europe. Face-to-face meetings and programming sessions for MediaWiki developers have been held once or several times a year since 2004.[122]

Anyone can submit patches to the project's Git/Gerrit repository.[123] There are also paid programmers who primarily develop projects for the Wikimedia Foundation. MediaWiki developers participate in the Google Summer of Code by facilitating the assignment of mentors to students wishing to work on MediaWiki core and extension projects.[124] During the year prior to November 2012, there were about two hundred developers who had committed changes to the MediaWiki core or extensions.[125] Major MediaWiki releases are generated approximately every six months by taking snapshots of the development branch, which is kept continuously in a runnable state;[126] minor releases, or point releases, are issued as needed to correct bugs (especially security problems). MediaWiki is developed on a continuous integration development model, in which software changes are pushed live to Wikimedia sites on regular basis.[126] MediaWiki also has a public bug tracker, *phabricator.wikimedia.org*, which runs Phabricator. The site is also used for feature and enhancement requests.

History

[edit]



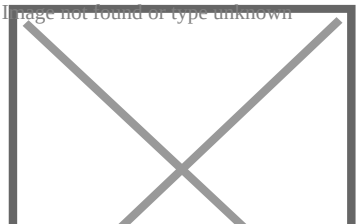
Magnus Manske in 2012

When Wikipedia was launched in January 2001, it ran on an existing wiki software system, UseModWiki. UseModWiki is written in the Perl programming language, and stores all wiki pages in text (.txt) files. This software soon proved to be limiting, in both functionality and performance. In mid-2001, Magnus Manske—a developer and student at the University of Cologne, as well as a Wikipedia editor—began working on new software that would replace UseModWiki, specifically designed for use by Wikipedia. This software was written in the PHP scripting language, and stored all of its information in a MySQL database. The new software was largely developed by August 24, 2001, and a test wiki for it was established shortly thereafter.

The first full implementation of this software was the new Meta Wikipedia on November 9, 2001. There was a desire to have it implemented immediately on the English-language Wikipedia.[127] However, Manske was apprehensive about any potential bugs harming the nascent website during the period of the final exams he had to complete immediately prior to Christmas;[128] this led to the launch on the English-language Wikipedia being delayed until January 25, 2002. The software was then, gradually, deployed on all the Wikipedia language sites of that time. This software was referred to as "the PHP script" and as "phase II", with the name "phase I", retroactively given to the use of UseModWiki.

Increasing usage soon caused load problems to arise again, and soon after, another rewrite of the software began; this time being done by Lee Daniel Crocker, which became known as "phase III". This new software was also written in PHP, with a MySQL backend, and kept the basic interface of the phase II software, but with the added functionality of a wider scalability. The "phase III" software went live on Wikipedia in July 2002.

The Wikimedia Foundation was announced on June 20, 2003. In July, Wikipedia contributor Daniel Mayer suggested the name "MediaWiki" for the software, as a play on "Wikimedia".[129] The MediaWiki name was gradually phased in, beginning in August 2003. The name has frequently caused confusion due to its (intentional) similarity to the "Wikimedia" name (which itself is similar to "Wikipedia").[130] The first version of MediaWiki, 1.1, was released in December 2003.



MediaWiki logo until April 1, 2021

The old product logo was created by Erik Möller, using a flower photograph taken by Florence Nibart-Devouard, and was originally submitted to the logo contest for a new Wikipedia logo, held from July 20 to August 27, 2003.[131][132] The logo came in third place, and was chosen to represent MediaWiki rather than Wikipedia, with the second place logo being used for the Wikimedia Foundation.[133] The double square brackets (**[[ ]]**) symbolize the syntax MediaWiki uses for creating hyperlinks to other wiki pages; while the sunflower represents the diversity of content on Wikipedia, its constant growth, and the wilderness.[134]

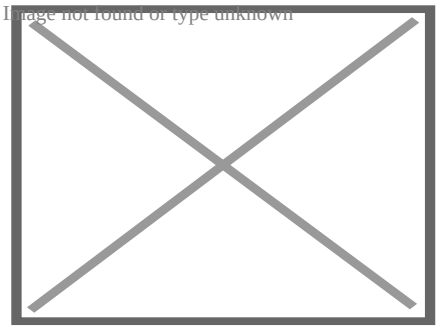
Later, Brooke Vibber, the chief technical officer of the Wikimedia Foundation,[135] took up the role of release manager.[136][101]

Major milestones in MediaWiki's development have included: the categorization system (2004); parser functions, (2006); Flagged Revisions, (2008);[68] the "*ResourceLoader*", a delivery system for CSS and JavaScript (2011);[137] and the VisualEditor, a "what you see is what you get" (WYSIWYG) editing platform (2013).[138]

The contest of designing a new logo was initiated on June 22, 2020, as the old logo was a bitmap image and had "high details", leading to problems when rendering at high and low resolutions, respectively. After two rounds of voting, the new and current MediaWiki logo designed by Serhio Magpie was selected on October 24, 2020, and officially adopted on April 1, 2021.[139]

Sites using MediaWiki

[edit]
See also: Category:MediaWiki websites



Fandom also makes use of MediaWiki.

MediaWiki's most famous use has been in Wikipedia and, to a lesser degree, the Wikimedia Foundation's other projects. Fandom, a wiki hosting service formerly known as Wikia, runs on MediaWiki. Other public wikis that run on MediaWiki include wikiHow and SNPedia. WikiLeaks began as a MediaWiki-based site, but is no longer a wiki.

A number of alternative wiki encyclopedias to Wikipedia run on MediaWiki, including Citizendium, Metapedia, Scholarpedia and Conservapedia. MediaWiki is also used internally by a large number of companies, including Novell and Intel.[140][141]

Notable usages of MediaWiki within governments include Intellipedia, used by the United States Intelligence Community, Diplopedia, used by the United States Department of State, and milWiki, a part of milSuite used by the United States Department of Defense. United Nations agencies such as the United Nations Development Programme and INSTRAW chose to implement their wikis using MediaWiki, because "this software runs Wikipedia and is therefore guaranteed to be thoroughly tested, will continue to be developed well into the future, and future technicians on these wikis will be more likely to have exposure to MediaWiki than any other wiki software."[142]

The Free Software Foundation uses MediaWiki to implement the LibrePlanet site.[143]

Comparison to other online collaboration software

[edit]
Main article: Comparison of wiki software

Users of online collaboration software are familiar with MediaWiki's functions and layout due to its noted use on Wikipedia. A 2006 overview of social software in academia observed that "Compared to other wikis, MediaWiki is also fairly aesthetically pleasing, though simple, and has an easily customized side menu and stylesheet."[144] However, in one assessment in 2006, Confluence was deemed to be a superior product due to its very usable API and ability to better support multiple wikis.[76]

A 2009 study at the University of Hong Kong compared TWiki to MediaWiki. The authors noted that TWiki has been considered as a collaborative tool for the development of educational papers and technical projects, whereas MediaWiki's most noted use is on Wikipedia. Although both platforms allow discussion and tracking of progress, TWiki has a "Report" part that MediaWiki lacks. Students perceived MediaWiki as being easier to use and more enjoyable than TWiki. When asked whether they recommended using MediaWiki for knowledge management course group project, 15 out of 16 respondents expressed their preference for MediaWiki giving answers of great certainty, such as "of course", "for sure".[145] TWiki and MediaWiki both have flexible plug-in architecture.[146]

A 2009 study that compared students' experience with MediaWiki to that with Google Docs found that students gave the latter a much higher rating on user-friendly layout.[147]

A 2021 study conducted by the Brazilian Nuclear Engineering Institute compared a MediaWiki-based knowledge management system against two others that were based on DSpace and Open Journal Systems, respectively.[148] It highlighted ease of use as an advantage of the MediaWiki-based system, noting that because the Wikimedia Foundation had been developing MediaWiki for a site aimed at the general public (Wikipedia), "its user interface was designed to be more user-friendly from start, and has received large user feedback over a long time", in contrast to DSpace's and OJS's focus on niche audiences.[148]

See also

[edit]

- Image not found or type unknown Free and open-source software portal

- List of content management systems
- List of wiki software
- BlueSpice
- Semantic MediaWiki
- XOWA – for viewing Wikipedia and other wikis offline
- PHP – a programming language that powers MediaWiki

References

[edit]

1. ^ *"Announcing MediaWiki 1.43.0". December 21, 2024.*
2. ^ *Reed, Sam (December 19, 2019). "Announcing MediaWiki 1.34.0". mediawiki-announce (Mailing list). Archived from the original on December 19, 2019. Retrieved December 19, 2019.*
3. ^ *"Names.php • mediawiki". github.com. April 8, 2021. Archived from the original on July 15, 2021. Retrieved May 19, 2021.*
4. ^ *"Copyright". mediawiki.org. Archived from the original on September 19, 2015. Retrieved September 7, 2015.*
5. ^ Magnus Manske's announcement of "PHP Wikipedia", wikipedia-l, August 24, 2001
6. ^ *Barrett, Daniel J. (October 2008). MediaWiki. O'Reilly Media. ISBN 978-0-596-51979-7. Retrieved April 23, 2010.*
7. ^ ***a b*** *"What is MediaWiki?". MediaWiki. January 9, 2021. Archived from the original on July 22, 2018. Retrieved March 27, 2021.*
8. ^ *"Wikipedia:Statistics – Wikipedia, the free encyclopedia". Wikipedia. Archived from the original on August 28, 2021. Retrieved May 30, 2010.*
9. ^ ***a b*** *"Message group statistics: MediaWiki core". translatewiki.net. August 20, 2023. Archived from the original on August 20, 2023. Retrieved August 20, 2023. "488 languages (not including languages that are supported but have no translations)"*
10. ^ *"Category:MediaWiki configuration settings". MediaWiki. September 11, 2016. Archived from the original on November 10, 2014. Retrieved September 11, 2016.*
11. ^ *"Extension Matrix". MediaWiki. Archived from the original on September 11, 2016. Retrieved September 6, 2017.*
12. ^ *Lerner, Reuven M. (February 23, 2006), Installing and Customizing MediaWiki, Linux Journal, archived from the original on April 6, 2010, retrieved April 23, 2010*
13. ^ *Petrazickis, Leons (2009), Deploying PHP applications on IBM DB2 in the cloud: MediaWiki as a case study, Proceedings of the 2009 Conference of the Center for Advanced Studies on Collaborative Research, pp. 304–305, doi:10.1145/1723028.1723069, S2CID 27463043*
14. ^ *"Manual:$wgEnableUploads". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.*
15. ^ *"Manual:$wgLogo". MediaWiki. December 12, 2009. Archived from the original on June 25, 2010. Retrieved May 30, 2010.*
16. ^ *"Manual:LocalSettings.php". MediaWiki. March 29, 2007. Archived from the original on June 25, 2010. Retrieved May 30, 2010.*

17. ^ "Extension:AbuseFilter". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
18. ^ Cacycle. "wikEd". Archived from the original on November 23, 2007.
19. ^ "Manual:Installation guide". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
20. ^ "Manual:Extending wiki markup". MediaWiki. Archived from the original on May 1, 2011. Retrieved May 30, 2010.
21. ^ "HTML to Wiki Converter – tables". WMF Labs. March 29, 2008. Archived from the original on July 13, 2014. Retrieved June 12, 2014.
22. ^ "Markup spec". MediaWiki. Archived from the original on December 19, 2007. Retrieved May 30, 2010.
23. ^ "Extricating Meaning from Wikimedia Article Archives" (PDF). Archived (PDF) from the original on March 10, 2011. Retrieved January 2, 2011.
24. ^ Jakes, David (August 15, 2006), Wild about Wikis, Tech & Learning, archived from the original on May 2, 2010, retrieved April 23, 2010
25. ^ Foley, Brian & Chang, Tae (2008), Wiki as a professional development tool (PDF), Technology and Teacher Education, archived (PDF) from the original on April 30, 2011, retrieved April 23, 2010
26. ^ "API". MediaWiki. May 17, 2010. Archived from the original on May 27, 2010. Retrieved May 30, 2010.
27. ^ "Pywikibot – MediaWiki". mediawiki.org. Archived from the original on March 9, 2018. Retrieved March 16, 2018.
28. ^ Ã ƒâ€žÃ…â€™esky. "Wikipedia:AutoWikiBrowser – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on April 20, 2010. Retrieved May 30, 2010.
29. ^ Bartolo, Laura M.; Lowe, Cathy S.; Songar, Poonam; Tandy, Robert J. (May 20, 2009), Facilitating Wiki/Repository Communication with Metadata, Georgia Institute of Technology, archived from the original on January 9, 2011, retrieved April 23, 2010
30. ^ "API:Client code". MediaWiki. May 24, 2010. Archived from the original on June 26, 2010. Retrieved May 30, 2010.
31. ^ "Tags – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on March 4, 2010. Retrieved May 30, 2010.
32. ^ "Manual:Tags". MediaWiki. August 31, 2009. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
33. ^ "Wikipedia:Huggle – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on March 31, 2011. Retrieved May 30, 2010.
34. ^ "IRC/Channels". Meta-Wiki. Archived from the original on March 23, 2010. Retrieved May 30, 2010.
35. ^ Daniel Nasaw (July 25, 2012). "Meet the 'bots' that edit Wikipedia". BBC News. Archived from the original on July 28, 2012. Retrieved July 30, 2012.
36. ^ "Manual:Watchlist". MediaWiki. November 24, 2009. Archived from the original on May 1, 2011. Retrieved May 30, 2010.
37. ^ Kevin Yager (March 16, 2006), "Wiki ware could harness the Internet for science", Nature, **440** (7082): 278, Bibcode:2006Natur.440..278Y, doi:10.1038/440278a, PMID 16541049
38. ^ "Manual:Interwiki". MediaWiki. Archived from the original on December 3, 2010. Retrieved May 30, 2010.

39. ^ "Interlanguage links". MediaWiki. Archived from the original on March 12, 2021. Retrieved March 17, 2021.
40. ^ Pintscher, Lydia (September 23, 2013). "Wikidata is Here!". Commons:Village pump. Archived from the original on December 6, 2021. Retrieved March 17, 2021.
41. ^ "Help:Navigation". MediaWiki. May 21, 2010. Archived from the original on May 27, 2010. Retrieved May 30, 2010.
42. ^ Carl Challborn & Teresa Reimann (December 2004), Wiki products: a comparison (PDF), Athabasca University, archived (PDF) from the original on December 23, 2010, retrieved April 23, 2010
43. ^ Newman, Aaron; Steinberg, Adam; Thomas, Jeremy (2008). Enterprise 2. 0 Implementation . McGraw-Hill Professional. p. 185. ISBN 978-0-07-159160-7.
44. ^ Malcolm, Jeremy (2008). Multi-Stakeholder Governance and the Internet Governance Forum. Terminus Press. pp. 188, 280. ISBN 978-0-9805084-0-6.
45. ^ Ebersbach, Anja; Glaser, Markus; Heigl, Richard; Dueck, Gunter (2006). Wiki. Springer. pp. 55, 80–82, 109, 120–121, 156. ISBN 978-3-540-25995-4.
46. ^ "Help:Categories". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
47. ^ Jakob Voss (April 27, 2006). "Collaborative thesaurus tagging the Wikipedia way". arXiv: cs.IR/0604036.
48. ^ Lupin. "Wikipedia:Tools/Navigation popups". Archived from the original on July 18, 2006.
49. ^ "Extension:Gadgets". MediaWiki. March 30, 2010. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
50. ^ Anderson, Mark; Carr, Leslie; Millard, David E. (July 4, 2017). There and Here: Patterns of Content Transclusion in Wikipedia. 28th ACM Conference on Hypertext and Social Media. Prague, Czech Republic: ACM. pp. 115–124. doi:10.1145/3078714.3078726. ISBN 978-1-4503-4708-2.
51. ^ Ã ƒâ€žÃ…â€™esky (May 16, 2010). "Template:Welcome – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on May 6, 2011. Retrieved May 30, 2010.
52. ^ T Kriplean; I Beschastnikh; et al. (2008), "Articulations of wikiwork: Uncovering valued work in wikipedia through barnstars", Proceedings of the 2008 ACM conference on Computer supported cooperative work, Proceedings of the ACM, pp. 47–56, doi: 10.1145/1460563.1460573, ISBN 9781605580074, S2CID 7164949
53. ^ Ã ƒâ€žÃ…â€™esky. "Wikipedia:Barnstars – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on June 24, 2009. Retrieved May 30, 2010.
54. ^ Ã ƒâ€žÃ…â€™esky. "Template:Test – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on November 11, 2009. Retrieved May 30, 2010.
55. ^ "Template:Test5 – Wikipedia, the free encyclopedia". En.wikipedia.org. June 19, 2008. Archived from the original on April 24, 2009. Retrieved May 30, 2010.
56. ^ "Manual:User rights management". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.
57. ^ H Zielke; W Boemke; M Kastrup; C Melzer (November 21, 2007), Operating Procedures in Clinical Practice (PDF), Royal College of Anaesthetists, archived (PDF) from the original on May 15, 2011, retrieved April 25, 2010
58. ^ "Security issues with authorization extensions". MediaWiki. Archived from the original on June 26, 2010. Retrieved May 30, 2010.

59. ^ *"Manual:Hooks/ArticleSaveComplete". MediaWiki. May 26, 2010. Archived from the original on November 10, 2014. Retrieved May 30, 2010.*
60. ^ *"Extension:Recent Activity Notify". MediaWiki. Archived from the original on September 27, 2014. Retrieved May 30, 2010.*
61. ^ *"Manual:Tag extensions". MediaWiki. May 21, 2010. Archived from the original on October 12, 2014. Retrieved May 30, 2010.*
62. ^ *"Manual:Parser functions". MediaWiki. March 22, 2010. Archived from the original on October 18, 2014. Retrieved May 30, 2010.*
63. ^ *"Manual:Special pages". MediaWiki. Archived from the original on November 10, 2014. Retrieved May 30, 2010.*
64. ^ *"Manual:Skins". MediaWiki. May 14, 2010. Archived from the original on November 25, 2014. Retrieved May 30, 2010.*
65. ^ *"Manual:Integration with S3". MediaWiki. March 22, 2010. Archived from the original on November 27, 2014. Retrieved May 30, 2010.*
66. ^ *"Extension:ParserFunctions". MediaWiki. December 25, 2009. Archived from the original on June 25, 2010. Retrieved May 30, 2010.*
67. ^ *"Wikipedia:Miscellany for deletion/Template:Qif – Wikipedia, the free encyclopedia". En.wikipedia.org. Archived from the original on February 25, 2015. Retrieved May 30, 2010.*
68. ^ ***a b*** *M Schindler; D Vrandecic (2009), Introducing new features to Wikipedia, Proceedings of WebSci, archived from the original on June 24, 2018, retrieved June 24, 2018*
69. ^ *"Category:String manipulation templates – Wikipedia, the free encyclopedia". En.wikipedia.org. May 15, 2010. Archived from the original on May 6, 2011. Retrieved May 30, 2010.*
70. ^ *"Bug 6455 – Enable StringFunctions on WMF wikis". bugzilla.wikimedia.org. Archived from the original on January 22, 2012. Retrieved October 9, 2010.*
71. ^ *"Extension:StringFunctions". MediaWiki. Archived from the original on June 25, 2010. Retrieved May 30, 2010.*
72. ^ *"r51497 – Code Review". MediaWiki. Archived from the original on November 27, 2014. Retrieved May 30, 2010.*
73. ^ *"Lua performance". Archived from the original on August 24, 2018. Retrieved December 27, 2018.*
74. ^ *"Extension:Cite". MediaWiki. May 3, 2010. Archived from the original on October 20, 2014. Retrieved May 30, 2010.*
75. ^ *"Category:Math extensions". MediaWiki. December 26, 2009. Archived from the original on May 1, 2011. Retrieved May 30, 2010.*
76. ^ ***a b*** *Marieke Guy (January 2007), Wikido: Exploiting the Potential of Wikis, Ariadne, archived from the original on April 7, 2010, retrieved April 23, 2010*
77. ^ *"Extension:CategorySuggest". MediaWiki. Archived from the original on September 26, 2014. Retrieved May 30, 2010.*
78. ^ *"Category:Flash Video extensions". MediaWiki. Archived from the original on September 15, 2014. Retrieved May 30, 2010.*
79. ^ *"Category:YouTube extensions". MediaWiki. September 16, 2008. Archived from the original on May 1, 2011. Retrieved May 30, 2010.*
80. ^ *"Category:RSS extensions". MediaWiki. Archived from the original on December 3, 2010. Retrieved May 30, 2010.*

81. ^ *M Dale; A Stern; M Deckert; W Sack (2009), System demonstration: Metavid.org: a social website and open archive of congressional video, Proceedings of the 10th Annual International Conference on Digital Government Research: Social Networks: Making Connections between Citizens, Data and Government, pp. 309–310, ISBN 978-1-60558-535-2*
82. ^ *"Wiki spam". Meta-Wiki. Archived from the original on November 7, 2014. Retrieved May 30, 2010.*
83. ^ *Goldman, Eric, Wikipedia's Labor Squeeze and its Consequences, vol. 8, Journal on Telecommunications and High Technology Law*
84. ^ *"Extension:ConfirmEdit". MediaWiki. May 5, 2010. Archived from the original on October 20, 2014. Retrieved May 30, 2010.*
85. ^ *"Extension:SpamBlacklist". MediaWiki. March 24, 2010. Archived from the original on October 20, 2014. Retrieved May 30, 2010.*
86. ^ *"Extension:Nuke". MediaWiki. May 19, 2010. Archived from the original on October 20, 2014. Retrieved May 30, 2010.*
87. ^ Lucene-search MediaWiki extension Archived June 2, 2012, at the Wayback Machine, mediawiki.org
88. ^ SphinxSearch MediaWiki extension Archived October 22, 2014, at the Wayback Machine, mediawiki.org
89. ^ *Masanori Arita & Kazuhiro Suwa (September 17, 2008), "Search extension transforms Wiki into a relational system: A case for flavonoid metabolite database", BioData Min, **1** (1), BioData Mining: 7, doi:10.1186/1756-0381-1-7, PMC 2556319, PMID 18822113*
90. ^ *Finn Arup Nielsen (October 15, 2009). "Lost in localization: a solution with neuroinformatics 2.0?". NeuroImage. **48** (1): 11–3. doi:10.1016/J.NEUROIMAGE.2009.05.073. ISSN 1053-8119. PMID 19497377. Wikidata Q21011200.*
91. ^ *Eric Ras; Jörg Rech; Sebastian Weber (August 1, 2008), Collaborative Authoring of Learning Elements for Adaptive Learning Spaces (PDF), Fifth International Conference on Adaptive Hypermedia and Adaptive Web-Based Systems, archived (PDF) from the original on May 3, 2011, retrieved April 23, 2010*
92. ^ *Hartung, Michael; et al. "A Platform for Collaborative Management of Semantic Grid Metadata". Intelligent distributed computing, systems and applications. p. 123.*
93. ^ *"Extension:VisualEditor". MediaWiki. Archived from the original on February 21, 2021. Retrieved March 15, 2021.*
94. ^ *"Category:WYSIWYG extensions". MediaWiki. April 10, 2008. Archived from the original on May 1, 2011. Retrieved May 30, 2010.*
95. ^ *"Manual:Installation requirements". MediaWiki. Archived from the original on March 8, 2021. Retrieved March 14, 2021.*
96. ^ *"Manual:Page table". MediaWiki. May 15, 2010. Archived from the original on November 25, 2014. Retrieved May 30, 2010.*
97. ^ *"Manual:Revision table". MediaWiki. Archived from the original on November 24, 2014. Retrieved May 30, 2010.*
98. ^ *Ortega, Felipe; González-Barahona, Jesus M.; Robles, Gregorio (2007), The Top-Ten Wikipedias: A Quantitative Analysis Using WikiXRay, CiteSeerX 10.1.1.107.1424*
99. ^ *Curino, Carlo A.; Tanca, Letizia; Zaniolo, Carlo (2008), Information Systems Integration and Evolution: Ontologies at Rescue (PDF), Workshop on Semantic, archived (PDF) from the original on December 22, 2009, retrieved April 23, 2010*

100. ^ T Dumitras; P Narasimhan (2009), No downtime for data conversions: Rethinking hot upgrades (PDF), archived from the original (PDF) on June 16, 2010, retrieved April 29, 2010
101. ^ **a b** "Wikipedia and MediaWiki". Presentation MediaWiki development (video). April 28, 2006. Archived from the original on April 14, 2011. Retrieved September 23, 2009.
102. ^ **a b** Bergsma, Mark, Wikimedia Architecture (PDF), archived (PDF) from the original on March 5, 2016, retrieved October 21, 2015
103. ^ "Manual:What is". MediaWiki. Archived from the original on July 22, 2018. Retrieved May 30, 2010.
104. ^ "Extension:StructuredDiscussions". MediaWiki. Archived from the original on December 27, 2018. Retrieved December 27, 2018.
105. ^ "Extension:Wikilog". MediaWiki. November 27, 2009. Archived from the original on September 22, 2014. Retrieved May 30, 2010.
106. ^ "Help:Signatures". MediaWiki. Archived from the original on November 15, 2008. Retrieved May 30, 2010.
107. ^ N Augar; R Raitman; W Zhou (2004), Teaching and learning online with wikis, Beyond the comfort zone, pp. 95–104, CiteSeerX 10.1.1.133.1456
108. ^ Cubric, Marija (2007), Analysis of the use of Wiki-based collaborations in enhancing student learning, University of Hertfordshire, p. 11, archived from the original on May 15, 2011, retrieved April 24, 2010
109. ^ Albertsen, Johannes & Bouvin, Niels Olof (2008), User defined structural searches in mediawiki, Proceedings of the nineteenth ACM conference on Hypertext and hypermedia, ISBN 978-1-59593-985-2
110. ^ "Extension:Semantic MediaWiki – WikiApiary". Archived from the original on October 26, 2018. Retrieved October 12, 2019.
111. ^ T DumitraÃƒâ€¦Â¸; P Narasimhan (2009), Toward upgrades-as-a-service in distributed systems, Proceedings of the 10th ACM/IFIP/USENIX International Conference on Middleware, pp. 1–2
112. ^ "Security for developers". MediaWiki. Archived from the original on November 25, 2014. Retrieved May 30, 2010.
113. ^ Perrin, Chad (April 30, 2008), Five security tips from MediaWiki's lead developer, Tech Republic[permanent dead link]
114. ^ "News". MediaWiki. Archived from the original on October 6, 2014. Retrieved May 30, 2010.
115. ^ "Manual:Security". MediaWiki. March 22, 2010. Archived from the original on November 10, 2014. Retrieved May 30, 2010.
116. ^ Books about MediaWiki Archived December 27, 2018, at the Wayback Machine, mediawiki.org
117. ^ MediaWiki Administrator's Handbook. Wikibooks. Archived from the original on October 20, 2014. Retrieved October 20, 2014.
118. ^ MediaWiki User Guide, Wikibooks, archived from the original on October 20, 2014, retrieved October 20, 2014
119. ^ "MediaWiki.org Project:Copyrights". Archived from the original on August 23, 2023. Retrieved August 23, 2023.
120. ^ "Project:PD help". MediaWiki. Archived from the original on October 29, 2020. Retrieved May 30, 2010.
121. ^ Rafe Needleman (November 19, 2008), Wikipedia gears up for flood of video and photo files, C-Net, archived from the original on August 6, 2009, retrieved April 23, 2010

122. ^ *"Events". Mediawiki.org. Archived from the original on December 27, 2018. Retrieved December 27, 2018.*
123. ^ *"Development policy". MediaWiki. July 19, 2013. Archived from the original on May 10, 2017. Retrieved August 4, 2013.*
124. ^ *"Summer of Code". MediaWiki. March 26, 2013. Archived from the original on May 10, 2017 . Retrieved August 4, 2013.*
125. ^ *"Wikimedia". Open Hub. Archived from the original on September 14, 2017. Retrieved November 15, 2012.* Approximate counts (not deduplicated) as of November 4, 2012: 139 for core, 155 for extensions supported by WMF, 190 and 42 for extensions only hosted on WMF's Git and SVN repositories respectively.
126. ^ ***a b*** *"Version lifecycle". MediaWiki. September 5, 2018. Archived from the original on June 17, 2020. Retrieved October 21, 2018.*
127. ^ *Bartlett, Manning (November 14, 2001). "Magnus's new script..." Wikimedia Lists. Wikimedia Foundation. Archived from the original on October 2, 2019. Retrieved October 2, 2019.*
128. ^ *Manske, Magnus (November 14, 2001). "Magnus's new script..." Wikimedia Lists. Wikimedia Foundation. Archived from the original on October 2, 2019. Retrieved October 2, 2019.*
129. ^ *Mayer, Daniel (July 19, 2003). "Phase IV, Wikibooks.org/.com and WikimediaFoundation.org/.com (was Wikis and uniformity)". Wikipedia-L mailing list. Archived from the original on July 12, 2017. Retrieved January 18, 2015.*
130. ^ *"Differences between Wikipedia, Wikimedia, MediaWiki, and wiki". MediaWiki. Archived from the original on July 1, 2009. Retrieved May 30, 2010.*
131. ^ *"International logo contest". Meta-Wiki. Archived from the original on May 9, 2020. Retrieved April 9, 2020.*
132. ^ *"International logo contest/results". Meta-wiki. Wikimedia Foundation. January 10, 2007. Archived from the original on November 4, 2015. Retrieved March 14, 2007.*
133. ^ *"Historical/Logo history". Meta-wiki. Wikimedia Foundation. January 17, 2007. Archived from the original on November 4, 2015. Retrieved March 14, 2007.*
134. ^ *Erik Möller (July 26, 2003). "File talk:EloquenceSunflowerNew-Small.png – Meta". Meta-wiki . Wikimedia Foundation. Archived from the original on January 30, 2016. Retrieved February 3, 2013.*
135. ^ *David Weinberger (2007). Everything Is Miscellaneous: The Power of the New Digital Disorder. Times Books. p. 99. ISBN 978-0-8050-8043-8.*
136. ^ *"MediaWiki history". MediaWiki website. Archived from the original on October 27, 2020. Retrieved August 4, 2013.*
137. ^ *"MediaWiki ResourceLoader". Mediawiki.org. Archived from the original on March 8, 2013. Retrieved July 6, 2013.*
138. ^ *"VisualEditor – MediaWiki". MediaWiki. Archived from the original on September 27, 2013. Retrieved September 15, 2013.*
139. ^ *Sarabadani, Amir (March 31, 2021). "Logo of MediaWiki has changed". Wikimedia Foundation. Archived from the original on April 2, 2021. Retrieved April 2, 2021.*
140. ^ MediaWiki testimonials Archived January 11, 2012, at the Wayback Machine, mediawiki.org
141. ^ *"The story of Intelpedia: A model corporate wiki". Socialmedia.biz. Archived from the original on September 16, 2013. Retrieved August 16, 2013.*

142. ^ *A. Maron; M. Maron (2007). "A stealth transformation: introducing wikis to the UN". Knowledge Management for Development Journal. Archived from the original on May 4, 2011 . Retrieved October 9, 2010.*
143. ^ *"LibrePlanet Homepage". Archived from the original on March 18, 2011. Retrieved December 10, 2018.*
144. ^ *Bryant, Todd (2006), Social Software in Academia (PDF), Educause Quarterly, archived from the original (PDF) on December 22, 2009, retrieved April 23, 2010*
145. ^ *Liang, M.; Chu, S.; Siu, F.; Zhou, A. (December 3–4, 2009), Comparing User Experiences in Using Twiki & Mediawiki to Facilitate Collaborative Learning (PDF), Proceedings of the 2009 International Conference on Knowledge Management, archived from the original (PDF) on May 14, 2011*
146. ^ *Schulz, Judith (2009), Company-Wiki as a knowledge transfer instrument for reducing the shortage of skilled workers (PDF), Institute of Technology and Education, archived (PDF) from the original on March 4, 2016, retrieved April 25, 2010*
147. ^ *Chu, S.; Kennedy, D.; Mak, M. (December 3–4, 2009), MediaWiki and Google Docs as online collaboration tools for group project co-construction (PDF), Proceedings of the 2009 International Conference on Knowledge Management, archived from the original (PDF) on May 14, 2011, retrieved April 23, 2010*
148. ^ ***a b*** *Grecco, Claudio Henrique dos Santos; Augusto, Silas Cordeiro; Souza, Jaqueline Tavares Viana de; Carvalho, Paulo Victor Rodrigues; Davila, Adriana Loureiro (July 25, 2021). "A Method for the evaluation of knowledge management systems". Brazilian Journal of Radiation Sciences. **9** (2B). doi:10.15392/bjrs.v9i2B.1250. ISSN 2319-0612. S2CID 237733021. Archived from the original on November 12, 2021. Retrieved November 12, 2021.*

External links

[edit]

MediaWiki at Wikipedia's sister projects

- Image not found or type unknown Definitions from Wiktionary
- Image not found or type unknown Media from Commons
- Image not found or type unknown Quotations from Wikiquote
- Image not found or type unknown Textbooks from Wikibooks
- Image not found or type unknown Resources from Wikiversity
- Image not found or type unknown Data from Wikidata
- Image not found or type unknown Discussions from Meta-Wiki
- Image not found or type unknown Documentation from MediaWiki

- MediaWiki homepage Image not found or type unknown Edit this at Wikidata

- **v**

- **t**
- **e**

Wikipedia

Overview (outline)

- Biases
  - gender
  - geographical
  - ideological
  - racial
- Censorship
- Conflict-of-interest editing
  - political editing incidents
- Criticism
- Deletion of articles
  - deletionism and inclusionism
  - notability
- Disputes
- "Ignore all rules"
- MediaWiki
- Plagiarism
- Predictions of the project's end
- Reliability
  - Fact-checking
  - *Citation needed*
- Vandalism

- Administrators
- AfroCrowd
- Arbitration Committee
- Art+Feminism
- Bots
  - Lsjbot
- Edit count
- List of Wikipedias
- *The Signpost*
- Wikimedian of the Year
- Wikipedian in residence
- WikiProject
- Women in Red

Community (Wikipedians)

Events

- Edit-a-thon
- WikiConference India
- Wiki Indaba
- WikiConference North America
- Wikimania

Wiki Loves

- Earth
- Folklore
- Monuments
- Pride
- Science

People (list)

- Esra'a Al Shafei
- Lee Daniel Crocker
- Florence Devouard
- Sue Gardner
- David Gerard
- James Heilman
- Maryana Iskander
- Dariusz Jemielniak
- Rebecca MacKinnon
- Katherine Maher
- Magnus Manske
- Erik Möller
- Jason Moore
- Raju Narisetti
- Steven Pruitt
- Annie Rauwerda
- Larry Sanger
- María Sefidari
- Lisa Seitz-Gruwell
- Rosie Stephenson-Goodknight

- Bomis
  - Nupedia
- First edit
- Logo
- Internet Watch Foundation
- Scientology
- Hillsborough disaster Wikipedia posts
- VisualEditor
- #1Lib1Ref
- Wikimedia Foundation actions
  - on the Chinese Wikipedia
    - 2021
  - against MENA Wikimedians
    - 2022

History

Controversies

- Alan MacMasters hoax
- Carlos Bandeirense Mirandópolis hoax
- Edit wars
- Essjay controversy
- Henryk Batuta hoax
- Jar'Edo Wens hoax
- Seigenthaler biography incident
- *Star Trek Into Darkness* debate
- United States congressional staff edits
- Weintraub controversy
- Zhemao hoaxes

Coverage

- American politics
  - Donald Trump
- COVID-19 pandemic
- Death
- Israeli–Palestinian conflict
- Russian invasion of Ukraine

Honors

- 274301 Wikipedia
- *Viola angustifolia*
- *Wikipedia Monument*

References and analysis	○ Academic studies ○ Bibliography ○ Cultural ○ Films ○ Listen to Wikipedia ○ Wikipediocracy
Mobile	○ Apps ○ QRpedia ○ Wapedia ○ Wikipedia Zero ○ WikiReader ○ Wikiwand
Content use	○ DBpedia ○ Depths of Wikipedia ○ Google and Wikipedia ○ Health information ○ Kiwix ○ Science information ○ Wikipedia-based education
Related	○ *The Iraq War: A Historiography of Wikipedia Changelogs* ○ LGBTQ and Wikipedia ○ *Magna Carta (An Embroidery)* ○ People imprisoned for editing Wikipedia ○ Print Wikipedia ○ Wiki rabbit hole ○ Wikimedia Foundation ○ Wikimedia movement ○ Wikipedia for World Heritage ○ Wikipedia in India ○ Wikiracing ○ List of online encyclopedias ○ List of wikis

- Image not found or type unknown **List**
- Image not found or type unknown **Category**

- **v**

- **t**
- **e**

Wiki software

.NET	FlexWiki SharePoint
Java	Confluence Jive Traction TeamPage XWiki
JavaScript	TiddlyWiki Wiki.js
Perl	Foswiki ikiwiki TWiki UseModWiki WikiBase
PHP	BlueSpice BookStack DokuWiki MediaWiki PhpWiki Phriction PmWiki PukiWiki Tiki
Python	Allura Bloodhound Kallithea Kuma MoinMoin Trac Zim

Ruby

- Gollum
- Redmine

Other languages

- CLiki
  - Common Lisp
- Federated Wiki
  - CoffeeScript
  - Haskell

- Image not found or type unknown **Comparison**
- Image not found or type unknown **List**
- Image not found or type unknown **Category**

- **v**
- **t**
- **e**

Wikimedia Foundation

Projects

- Wikipedia community (Wikipedians)

People

Current

- Maryana Iskander
- Lisa Seitz-Gruwell
- Dariusz Jemielniak
- Rebecca MacKinnon
- Raju Narisetti
- Rosie Stephenson-Goodknight
- Esra'a Al Shafei
- Jimmy Wales

Past

- Hampton Lintorn-Catlin
- Danese Cooper
- Bishakha Datta
- Florence Devouard
- Oscar van Dillen
- Sue Gardner
- Arnnon Geshuri
- Mike Godwin
- Aaron Halfaker
- James Heilman
- Guy Kawasaki
- Patricio Lorente
- Katherine Maher
- Erik Möller
- Larry Sanger
- María Sefidari
- Lila Tretikov
- Luis Villa

Projects

- Wikipedia
  - history
  - List of Wikipedias
  - Censorship of Wikipedia
- Wiktionary
- Wikimedia Commons
- Wikidata
- Wikiquote
- Wikibooks
- Wikisource
- Wikispecies
- Wikinews
- Wikiversity
- Wikivoyage
- Wikifunctions
  - Abstract Wikipedia

Other

- Wikimedia movement
- List of Wikimedia chapters
  - Bangladesh
  - Deutschland
  - Israel
  - Polska
  - UK
  - Ukraine
- Wikimania
- Wiki Indaba
- WikiConference India
- WikiConference North America
- MediaWiki
- Litigation
  - Monkey selfie copyright dispute
  - *Wikimedia Foundation v. NSA*
- Knowledge Engine

Related

- *The Signpost*
- *Wikipedia Monument*
- Wikimedian of the Year
- Tides Foundation
- Artificial intelligence in Wikimedia projects
- Google and Wikipedia
- Wikipedia for World Heritage

Authority control databases Image not found or type unknown **Edit this at Wikidata**

International	○ VIAF ○ FAST
National	○ Germany ○ United States ○ France ○ BnF data ○ Israel
Other	○ IdRef

About Local search

Local search may refer to:

- Local search (constraint satisfaction), a method for problem solving in constraint satisfaction
- Local search (Internet), web searching for web sites relevant to a given place
- Local search (optimization), a method for problem solving in optimization
- Local authority search, in the UK a search for information about a particular property and the surrounding area undertaken as part of conveyancing

Disambiguation icon
Image not found or type unknown
This disambiguation page lists articles associated with the title **Local search**.
If an internal link led you here, you may wish to change the link to point directly to the intended article.

Check our other pages :

- best SEO company in Sydney
- SEO packages
- listing business on google
- SEO packages australia
- search engine optimisation consultants
- SEO agency australia

Frequently Asked Questions

What does SEO mean for my business?

SEO, or search engine optimisation, means improving your website's structure, content, and overall performance to rank higher in search results. This leads to more organic traffic, increased brand visibility, and better conversion rates, ultimately supporting your business's growth.

What is SEO marketing?

SEO marketing is the process of using search engine optimization techniques to enhance your online presence. By optimizing your website, creating relevant content, and building authority, you attract organic traffic from search engines, increase brand awareness, and drive conversions.

Sydney SEO consulting

SEO Sydney

Phone : 1300 684 339

City : Sydney

State : NSW

Zip : 2000

Google Business Profile

Google Business Website

Company Website : https://sydney.website/seo-sydney/

USEFUL LINKS

SEO Website

SEO Services Sydney

Local SEO Sydney

SEO Ranking

SEO optimisation

LATEST BLOGPOSTS

SEO community

SEO Buzz

WordPress SEO

SEO Audit

Sitemap

Privacy Policy

About Us

SEO Castle Hill | SEO Fairfield | SEO Hornsby | SEO Liverpool | SEO North Sydney | SEO Norwest | SEO Parramatta | SEO Penrith | SEO Strathfield | SEO Wetherill Park

Follow us