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best SEO Sydney

on-page SEO

on-page SEO

broken link building"Broken link building involves identifying broken links on other websites and offering your content as a replacement. This strategy helps businesses earn quality backlinks, improve their sites authority, and increase search rankings."

Broken link building"Broken link building is a tactic where you find broken links on other websites and suggest your own content as a replacement. Search Engine Optimisation . By helping site owners fix their broken links, you gain valuable backlinks while improving the user experience for visitors."

buyer intent keywordsBuyer intent keywords indicate that a user is ready to make a purchase. Optimizing for these terms can increase conversions and drive more sales.

Best SEO Sydney Agency.

on-page SEO —

- on-page SEO
- on-page SEO
- on-page SEO checklist
- on-page SEO improvements
- optimized image alt attributes
- optimized image backup solutions
- optimized image delivery networks

call-to-action optimization"Optimizing calls-to-action (CTAs) encourages users to take desired actions, such as subscribing, downloading, or making a purchase. Clear, compelling CTAs improve engagement, conversion rates, and user satisfaction."

canonical tags"Canonical tags help search engines understand which version of a page is the primary one, preventing duplicate content issues. By using canonical tags correctly, businesses can consolidate link equity, improve crawl efficiency, and maintain consistent rankings."

canonical tags"Canonical tags help prevent duplicate content issues by indicating the preferred version of a web page. Best Local SEO Services. By using canonical tags correctly, you consolidate link equity and ensure that search engines index the correct URL, improving the pages ranking potential."

on-page SEO checklist

commercial intent keywordsCommercial intent keywords show that users are considering a purchase but are still in the research phase. Optimizing for these terms helps position your brand as the go-to option when they're ready to buy.

comparison keywords"Comparison keywords, like vs or comparison, indicate that users are weighing their options.

Best SEO Sydney - Google keyword clusters

1. Keyword research frameworks
2. Google keyword clusters
3. Google search snippets

By creating content that directly compares products or services, you capture traffic from users who are close to making a decision."

competitive analysis"Competitive analysis identifies how rival businesses approach SEO, highlighting opportunities and gaps. By understanding competitors' strategies, businesses can refine their own approach, improve rankings, and gain an edge in the search results."

Best SEO Packages Sydney Sydney.

HOW SEARCH ENGINE MARKETING HELPS BUSINESS GROW OVER TIME

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





**TAKING YOUR SMALL BUSINESS
TO THE NEXT LEVEL
WITH SEO SERVICES AUSTRALIA**

on-page SEO improvements

competitive keyword analysis"Competitive keyword analysis identifies which search terms competitors are targeting. By understanding these keywords, businesses can refine their strategies, discover untapped opportunities, and improve their search rankings."

competitor analysis keywords"Competitor analysis keywords are terms that your competitors rank for. By identifying and targeting these keywords, you can refine your strategy, improve your rankings, and attract more traffic."

Competitor backlink analysis"Competitor backlink analysis involves examining the backlink profiles of your competitors to identify potential linking opportunities. [SEO Services](#) . By understanding where their links come from, you can target similar sources to enhance your own link building strategy."

optimized image alt attributes

Competitor backlink audits"Competitor backlink audits analyze the backlink profiles of top-performing competitors. By understanding where they earn their links, you can identify potential opportunities and refine your own link building strategy to gain a competitive edge."

competitor gap keywordsCompetitor gap keywords are terms your competitors rank for that you currently don't. Targeting these keywords helps you close the gap and compete more effectively in search rankings.

competitor keywordsCompetitor keywords are the terms your competitors rank for. Identifying these keywords provides insights into potential opportunities and helps you develop a stronger keyword strategy.

KEY ADVANTAGES LOCAL SEO



SYDNEY WEBSITE DESIGN AGENCY
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CONTENT MARKETING
TYPES FOR SMALL BUSINESS
AND BRAND BUILDING

optimized image backup solutions

Competitor link gap analysis"Competitor link gap analysis identifies opportunities where your competitors have acquired backlinks that you haven't. By targeting these missed opportunities, you can close the gap and strengthen your link building efforts."

content A/B testing"A/B testing content involves creating two variations of a page to see which performs better. By analyzing metrics like engagement, time on page, and conversion rates, you can identify the most effective content strategies and continuously improve."

content accuracy"Ensuring content accuracy builds credibility and trust with your audience. By providing correct information, sourcing reliable references, and fact-checking, you enhance the user experience and improve your site's reputation in the eyes of search engines."

optimized image delivery networks

Content agency Sydney"A content agency in Sydney provides businesses with high-quality, engaging content that supports SEO efforts. By producing blog posts, articles, videos, and social media content, these agencies help companies build brand authority, improve search rankings, and connect with their target audience."

content alignment with user intent"Aligning content with user intent means creating material that directly answers the questions users are asking. By addressing their needs, you increase engagement, build trust, and improve the likelihood of ranking higher in search results."

content analytics"Content analytics tools track performance indicators like page views, time on page, and conversion rates.

Best SEO Sydney - Keyword research frameworks

1. Search ranking fluctuations
2. Mobile search optimization

By analyzing this data, you can identify strengths, address weaknesses, and continuously improve your content strategy."



About Web directory

A **web directory** or **link directory** is an online list or catalog of [websites](#). That is, it is a directory on the [World Wide Web](#) of (all or part of) the World Wide Web. Historically, directories typically

listed entries on people or businesses, and their contact information; such directories are still in use today. A web directory includes entries about websites, including links to those websites, organized into **categories** and subcategories.[1][2][3] Besides a link, each entry may include the title of the website, and a description of its contents. In most web directories, the entries are about whole websites, rather than individual pages within them (called "deep links"). Websites are often limited to inclusion in only a few categories.

There are two ways to find information on the Web: by **searching** or **browsing**. Web directories provide links in a structured list to make browsing easier. Many web directories combine searching and browsing by providing a search engine to search the directory. Unlike search engines, which base results on a database of entries gathered automatically by **web crawler**, most web directories are built manually by human editors. Many web directories allow site owners to submit their site for inclusion, and have editors review submissions for fitness.

Web directories may be general in scope, or limited to particular subjects or fields. Entries may be listed for free, or by paid submission (meaning the site owner must pay to have his or her website listed).

RSS directories are similar to web directories, but contain collections of **RSS feeds**, instead of links to websites.

History

[edit]

During the early development of the web, there was a list of **web servers** edited by **Tim Berners-Lee** and hosted on the **CERN** webserver. One historical snapshot from 1992 remains.[4] He also created the **World Wide Web Virtual Library**, which is the oldest web directory.[5]

Scope of listing

[edit]

Most of the directories are general in on scope and list websites across a wide range of categories, regions and languages. But some niche directories focus on restricted regions, single languages, or specialist sectors. For example, there are shopping directories that specialize in the listing of retail **e-commerce** sites.

Examples of well-known general web directories are **Yahoo! Directory** (shut down at the end of 2014) and **DMOZ** (shut down on March 14, 2017). DMOZ was significant due to its extensive categorization and large number of listings and its **free availability** for use by other directories and search engines.[6]

However, a debate over the quality of directories and databases still continues, as search engines use DMOZ's content without real integration, and some experiment using **clustering**.

Development

[**edit**]



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There have been many attempts to make building web directories easier, such as using automated submission of related links by script, or any number of available **PHP** portals and programs. Recently, **social software** techniques have spawned new efforts of categorization, with **Amazon.com** adding **tagging** to their product pages.

Monetizing

[**edit**]

Directories have various features in their listings, often depending upon the price paid for inclusion:

- **Cost**
 - Free submission – there is no charge for the review and listing of the site
 - Paid submission – a one-time or recurring fee is charged for reviewing/listing the submitted link
- **No follow** – there is a rel="nofollow" attribute associated with the link, meaning search engines will give no weight to the link
- Featured listing – the link is given a premium position in a category (or multiple categories) or other sections of the directory, such as the homepage. Sometimes called sponsored listing.
- Bid for position – where sites are ordered based on bids
- **Affiliate links** – where the directory earns commission for referred customers from the listed websites
- Reciprocity
 - Reciprocal link – a link back to the directory must be added somewhere on the submitted site in order to get listed in the directory. This strategy has decreased in popularity due to changes in SEO algorithms which can make it less valuable or counterproductive.^[7]
 - No Reciprocal link – a web directory where you will submit your links for free and no need to add link back to your website

Human-edited web directories

[\[edit\]](#)



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A human-edited directory is created and maintained by editors who add links based on the policies particular to that directory. Human-edited directories are often targeted by [SEO](#)s on the basis that links from reputable sources will improve rankings in the major [search engines](#). Some directories may prevent search engines from rating a displayed link by using redirects, [nofollow](#) attributes, or other techniques. Many human-edited directories, including [DMOZ](#), [World Wide Web Virtual Library](#), [Business.com](#) and [Jasmine Directory](#), are edited by volunteers, who are often experts in particular categories. These directories are sometimes criticized due to long delays in approving submissions, or for rigid organizational structures and disputes among volunteer editors.

In response to these criticisms, some volunteer-edited directories have adopted [wiki](#) technology, to allow broader community participation in editing the directory (at the risk of introducing lower-quality, less objective entries).

Another direction taken by some web directories is the paid for inclusion model. This method enables the directory to offer timely inclusion for submissions and generally fewer listings as a result of the paid model. They often offer additional listing options to further enhance listings, including features listings and additional links to inner pages of the listed website. These options typically have an additional fee associated but offer significant help and visibility to sites and/or their inside pages.

Today submission of websites to web directories is considered a common [SEO](#) ([search engine optimization](#)) technique to get back-links for the submitted website. One distinctive feature of 'directory submission' is that it cannot be fully automated like search engine submissions. Manual directory submission is a tedious and time-consuming job and is often outsourced by [webmasters](#).

Bid for Position directories

[\[edit\]](#)



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Bid for Position directories, also known as bidding web directories, are paid-for-inclusion web directories where the listings of websites in the directory are ordered according to their bid amount. They are special in that the more a person pays, the higher up the list of websites in the directory they go. With the higher listing, the website becomes more visible and increases the chances that visitors who browse the directory will click on the listing.

Propagation

[[edit](#)]

Web directories will often make themselves accessing by more and more URLs by acquiring the domain registrations of defunct websites as soon as they expire, a practice known as **Domain drop catching**.

See also

[[edit](#)]

- [List of web directories](#)
- [Lists of websites](#) – this itself is a web directory
- [Web portal](#)

Link destinations

- [Deep links](#)
- [Home pages](#)

Types of web directory

- [Business directory](#)

Other link organization and presentation systems

- [Webring](#)
- [Bookmark manager](#)
 - [Enterprise bookmarking](#)
 - [Social bookmarking](#)
- [Search engine](#)
 - [Search engine results page \(SERP\)](#)

References

[[edit](#)]

1. [^] *"Web directory". Dictionary.com. Retrieved 11 November 2023.*
2. [^] Wendy Boswell. *"What is a Web Directory". About.com. Archived from the original on 2010-01-07. Retrieved 2010-02-25.*
3. [^] *"Web Directory Or Directories". yourmaindomain. Retrieved 30 August 2013.*
4. [^] *"World-Wide Web Servers". W3C. Retrieved 2012-05-14.*
5. [^] Aaron Wall. *"History of Search Engines: From 1945 to Google Today". Search Engine History. Retrieved 2017-05-16.*

6. [^] Paul Festa (December 27, 1999), [Web search results still have human touch](#), CNET News.com, retrieved September 18, 2007
7. [^] Schmitz, Tom (August 2, 2012). *"What Everyone Needs To Know About Good, Bad & Bland Links"*. searchengineland.com. Third Door Media. Retrieved April 21, 2017. "Reciprocal links may not help with competitive keyword rankings, but that does not mean you should avoid them when they make sound business sense. What you should definitely avoid are manipulative reciprocal linking schemes like automated link trading programs and three-way links or four-way links."

External links

[[edit](#)]

- [v](#)
- [t](#)
- [e](#)

[Web syndication](#)

History

[Blogging](#)
[Podcasting](#)
[Vlogging](#)
[Web syndication technology](#)

Types

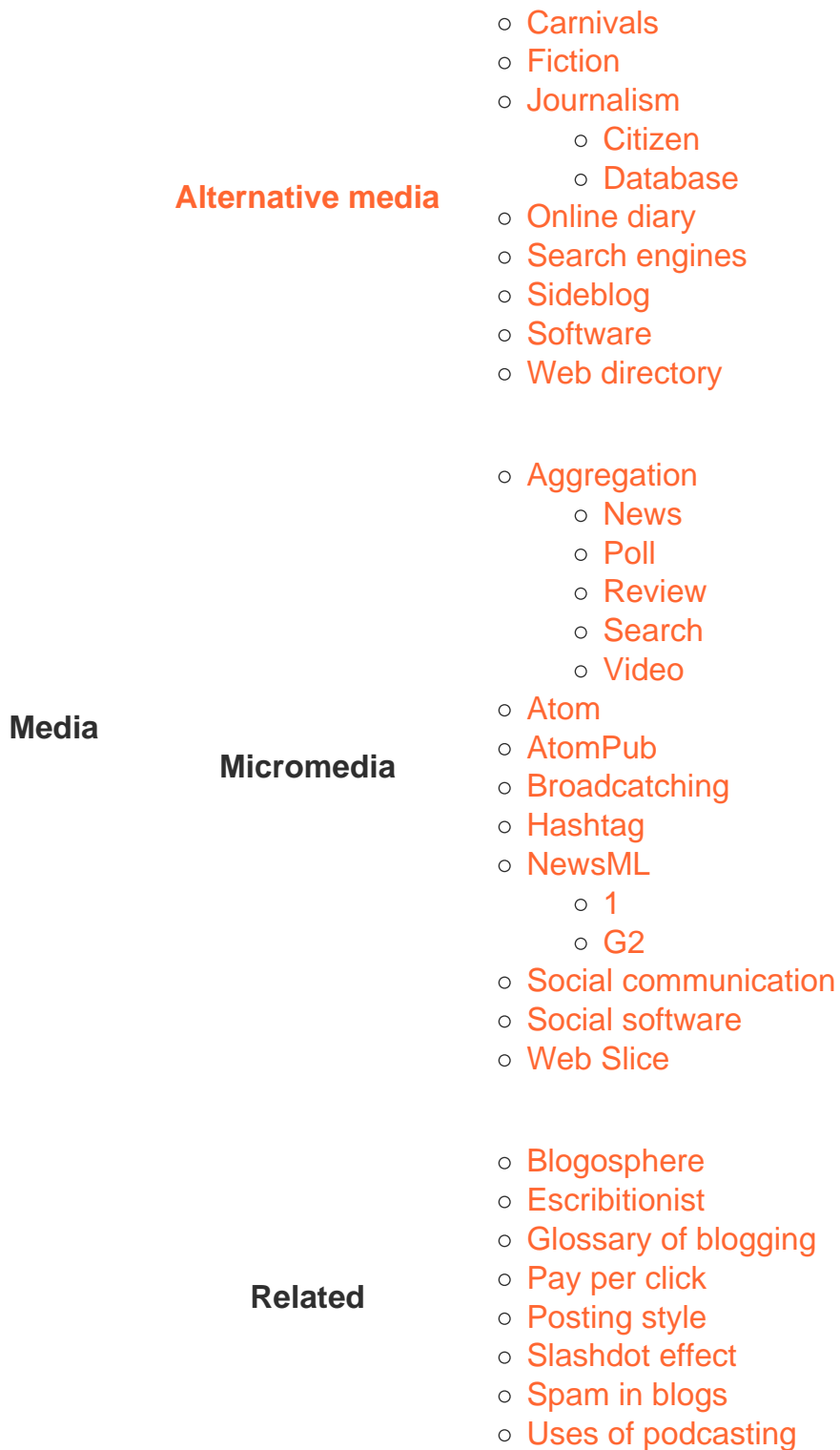
- Art
- Bloggernacle
- Classical music
- Corporate
- Dream diary
- Edublog
- Electronic journal
- Fake
- Family
- Fashion
- Food
- Health
- Law
- Lifelog
- MP3
- News
- Photoblog
- Police
- Political
- Project
- Reverse
- Travel
- Warblog

Technology	General	<ul style="list-style-type: none"> ○ BitTorrent ○ Feed URI scheme
	Features	<ul style="list-style-type: none"> ○ Linkback ○ Permalink ○ Ping ○ Pingback ○ Reblogging ○ Refback ○ Rollback ○ Trackback
	Mechanism	<ul style="list-style-type: none"> ○ Thread ○ Geotagging ○ RSS enclosure ○ Synchronization
	Memetics	<ul style="list-style-type: none"> ○ Atom feed ○ Data feed ○ Photofeed ○ Product feed ○ RDF feed ○ Web feed
	RSS	<ul style="list-style-type: none"> ○ GeoRSS ○ MRSS ○ RSS TV
	Social	<ul style="list-style-type: none"> ○ Inter-process communication ○ Mashup ○ Referencing ○ RSS editor ○ RSS tracking ○ Streaming media
	Standard	<ul style="list-style-type: none"> ○ OPML ○ RSS Advisory Board ○ Usenet ○ World Wide Web ○ XBEL ○ XOXO

- Audio podcast
- Enhanced podcast
- Mobilecast
- Narrowcasting
- Peercasting
- Screencast
- Slidecasting
- Videocast
- Webcomic
- Webtoon
- Web series

Form

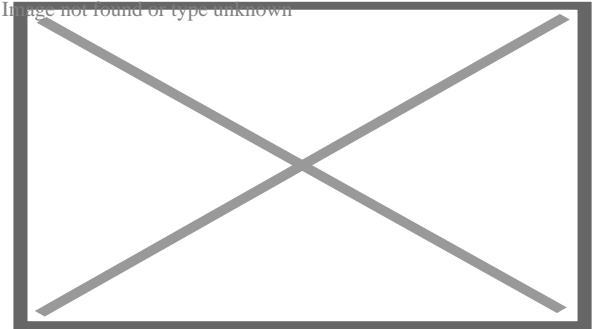
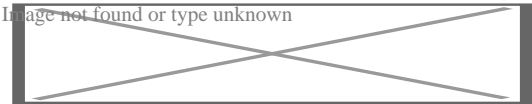
- Anonymous blogging
- Collaborative blog
- Columnist
- Instant messaging
- Liveblogging
- Microblog
- Mobile blogging
- Spam blog
- Video blogging
- Motovlogging





This article's **"criticism" or "controversy" section** may compromise the article's **neutrality**. Please help rewrite or integrate negative information to other sections **through discussion** on the **talk page**. *(June 2024)*

Google Maps




Screenshot of Google Maps in a web browser

Type of site	Web mapping
Available in	74 languages

List of languages

Afrikaans, Azerbaijani, Indonesian, Malay, Bosnian, Catalan, Czech, Danish, German (Germany), Estonian, English (United States), Spanish (Spain), Spanish (Latin America), Basque, Filipino, French (France), Galician, Croatian, Zulu, Icelandic, Italian, Swahili, Latvian, Lithuanian, Hungarian, Dutch, Norwegian, Uzbek, Polish, Portuguese (Brazil), Portuguese (Portugal), Romanian, Albanian, Slovak, Slovenian, Finnish, Swedish, Vietnamese, Turkish, Greek, Bulgarian, Kyrgyz, Kazakh, Macedonian, Mongolian, Russian, Serbian, Ukrainian, Georgian, Armenian, Hebrew, Urdu, Arabic, Persian, Amharic, Nepali, Hindi, Marathi, Bengali, Punjabi, Gujarati, Tamil, Telugu, Kannada, Malayalam, Sinhala, Thai, Lao, Burmese, Khmer, Korean, Japanese, Simplified Chinese, Traditional Chinese

Owner	Google
URL	google.com/maps  Edit this at Wikidata
Commercial	Yes
Registration	Optional, included with a Google Account
Launched	February 8, 2005; 20 years ago
Current status	Active
Written in	C++ (back-end), JavaScript , XML , Ajax (UI)

Google Maps is a **web mapping** platform and consumer application offered by **Google**. It offers **satellite imagery**, **aerial photography**, street maps, 360° **interactive panoramic** views of streets (**Street View**), real-time traffic conditions, and **route planning** for traveling by foot, car, bike, air (in

beta) and public transportation. As of 2020, Google Maps was being used by over one billion people every month around the world.[1]

Google Maps began as a C++ desktop program developed by brothers Lars and Jens Rasmussen in Australia at Where 2 Technologies. In October 2004, the company was acquired by Google, which converted it into a web application. After additional acquisitions of a geospatial data visualization company and a real-time traffic analyzer, Google Maps was launched in February 2005.[2] The service's front end utilizes JavaScript, XML, and Ajax. Google Maps offers an API that allows maps to be embedded on third-party websites,[3] and offers a locator for businesses and other organizations in numerous countries around the world. Google Map Maker allowed users to collaboratively expand and update the service's mapping worldwide but was discontinued from March 2017. However, crowdsourced contributions to Google Maps were not discontinued as the company announced those features would be transferred to the Google Local Guides program,[4] although users that are not Local Guides can still contribute.

Google Maps' satellite view is a "top-down" or bird's-eye view; most of the high-resolution imagery of cities is aerial photography taken from aircraft flying at 800 to 1,500 feet (240 to 460 m), while most other imagery is from satellites.[5] Much of the available satellite imagery is no more than three years old and is updated on a regular basis, according to a 2011 report.[6] Google Maps previously used a variant of the Mercator projection, and therefore could not accurately show areas around the poles.[7] In August 2018, the desktop version of Google Maps was updated to show a 3D globe. It is still possible to switch back to the 2D map in the settings.

Google Maps for mobile devices was first released in 2006; the latest versions feature GPS turn-by-turn navigation along with dedicated parking assistance features. By 2013, it was found to be the world's most popular smartphone app, with over 54% of global smartphone owners using it.[8] In 2017, the app was reported to have two billion users on Android, along with several other Google services including YouTube, Chrome, Gmail, Search, and Google Play.

History

[edit]

Acquisitions

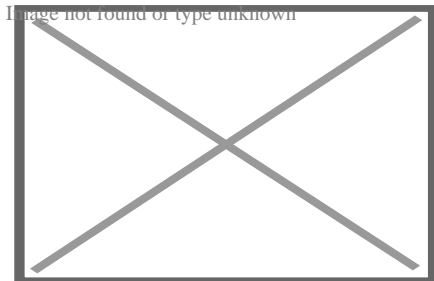
[edit]

Google Maps first started as a C++ program designed by two Danish brothers, Lars and Jens Eilstrup Rasmussen, and Noel Gordon and Stephen Ma, at the Sydney-based company Where 2 Technologies, which was founded in early 2003. The program was initially designed to be separately downloaded by users, but the company later pitched the idea for a purely Web-based product to Google management, changing the method of distribution.[9] In October 2004, the company was acquired by Google Inc.[10] where it transformed into the web application Google Maps. The Rasmussen brothers, Gordon and Ma joined Google at that time.

In the same month, Google acquired **Keyhole**, a geospatial data visualization company (with investment from the **CIA**), whose marquee application suite, Earth Viewer, emerged as the **Google Earth** application in 2005 while other aspects of its core technology were integrated into Google Maps.^[11] In September 2004, Google acquired ZipDash, a company that provided real-time traffic analysis.^[12]

2005–2010

[\[edit\]](#)

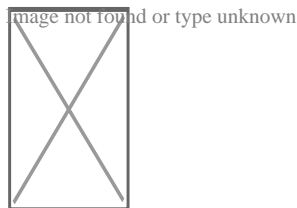


Google Maps Beta in 2005

The launch of Google Maps was first announced on the Google Blog on February 8, 2005.^[13]

In September 2005, in the aftermath of **Hurricane Katrina**, Google Maps quickly updated its satellite imagery of **New Orleans** to allow users to view the extent of the flooding in various parts of that city.^{[14][15]}

As of 2007, Google Maps was equipped with a miniature view with a draggable rectangle that denotes the area shown in the main viewport, and "Info windows" for previewing details about locations on maps.^[16] As of 2024, this feature had been removed (likely several years prior).



Original Google Maps icon

On November 28, 2007, Google Maps for Mobile 2.0 was released.^{[17][18][19]} It featured a **beta version** of a "My Location" feature, which uses the GPS / **Assisted GPS** location of the mobile device, if available, supplemented by determining the nearest **wireless networks** and **cell sites**.^[18] ^[19] The software looks up the location of the cell site using a database of known wireless networks and sites.^{[20][21]} By **triangulating** the different signal strengths from cell transmitters and then using their location property (retrieved from the database), My Location determines the user's current location.^[22]

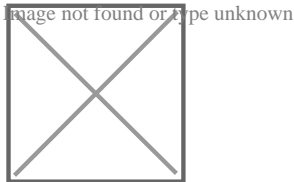
On September 23, 2008, coinciding with the announcement of the **first commercial Android device**, Google announced that a Google Maps app had been released for its Android operating system.^{[23][24]}

In October 2009, Google replaced **Tele Atlas** as their primary supplier of geospatial data in the US version of Maps and used their own data.^[25]

2011–2015

^[edit]

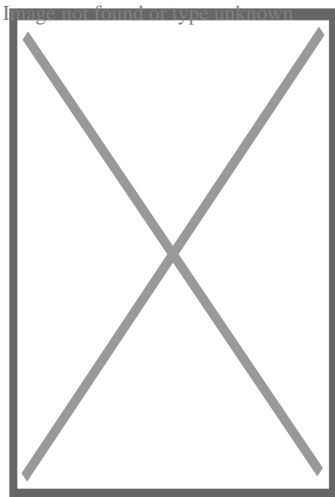
On April 19, 2011, Map Maker was added to the American version of Google Maps, allowing any viewer to edit and add changes to Google Maps. This provides Google with local map updates almost in real-time instead of waiting for digital map data companies to release more infrequent updates.



Icon used from 2015 to 2020

On January 31, 2012, Google, due to offering its Maps for free, was found guilty of abusing the dominant position of its Google Maps application and ordered by a court to pay a fine and damages to Bottin Cartographer, a French mapping company.^[26] This ruling was overturned on appeal.^[27]

In June 2012, Google started mapping the UK's rivers and canals in partnership with the **Canal and River Trust**. The company has stated that "it would update the program during the year to allow users to plan trips which include locks, bridges and towpaths along the 2,000 miles of river paths in the UK."^[28]



A monument in the shape of a [Google Maps pin](#) in the center of the city of [Szczecin](#), Poland

In December 2012, the Google Maps application was separately made available in the App Store, after Apple removed it from its default installation of the mobile operating system version [iOS 6](#) in September 2012.[\[29\]](#)

On January 29, 2013, Google Maps was updated to include a map of [North Korea](#).[\[30\]](#) As of May 3, 2013, Google Maps recognizes [Palestine](#) as a country, instead of redirecting to the [Palestinian territories](#).[\[31\]](#)

In August 2013, Google Maps removed the Wikipedia Layer, which provided links to Wikipedia content about locations shown in Google Maps using [Wikipedia geocodes](#).[\[32\]](#)

On April 12, 2014, Google Maps was updated to reflect the [annexation of Ukrainian Crimea by Russia](#). Crimea is shown as the [Republic of Crimea](#) in Russia and as the [Autonomous Republic of Crimea](#) in Ukraine. All other versions show a dotted disputed border.[\[33\]](#)

In April 2015, on a map near the Pakistani city of Rawalpindi, the imagery of the Android logo urinating on the Apple logo was added via Map Maker and appeared on Google Maps. The [vandalism](#) was soon removed and Google publicly apologized.[\[34\]](#) However, as a result, Google disabled user moderation on Map Maker, and on May 12, disabled editing worldwide until it could devise a new policy for approving edits and avoiding vandalism.[\[35\]](#)

On April 29, 2015, users of the classic Google Maps were forwarded to the new Google Maps with the option to be removed from the interface.[\[36\]](#)

On July 14, 2015, the Chinese name for [Scarborough Shoal](#) was removed after a petition from the [Philippines](#) was posted on [Change.org](#).[\[37\]](#)

2016–2018

[\[edit\]](#)

On June 27, 2016, Google rolled out new satellite imagery worldwide sourced from [Landsat 8](#), comprising over 700 trillion pixels of new data.[\[38\]](#) In September 2016, Google Maps acquired mapping analytics startup Urban Engines.[\[39\]](#)

In 2016, the Government of South Korea offered Google conditional access to the country's geographic database – access that already allows indigenous Korean mapping providers high-detail maps. Google declined the offer, as it was unwilling to accept restrictions on reducing the quality around locations the South Korean Government felt were sensitive (see [restrictions on geographic data in South Korea](#)).[\[40\]](#)

On October 16, 2017, Google Maps was updated with accessible imagery of several planets and moons such as [Titan](#), [Mercury](#), and [Venus](#), as well as direct access to imagery of the [Moon](#) and [Mars](#).^{[41][42]}

In May 2018, Google announced major changes to the API structure starting June 11, 2018. This change consolidated the 18 different endpoints into three services and merged the basic and premium plans into one pay-as-you-go plan.^[43] This meant a 1400% price raise for users on the basic plan, with only six weeks of notice. This caused a harsh reaction within the developers community.^[44] In June, Google postponed the change date to July 16, 2018.

In August 2018, Google Maps designed its overall view (when zoomed out completely) into a [3D](#) globe dropping the [Mercator projection](#) that projected the planet onto a flat surface.^[45]

2019–present

[\[edit\]](#)

Google Maps icon 2020

Image not found or type unknown
2020 icon redesign

In January 2019, Google Maps added speed trap and [speed camera](#) alerts as reported by other users.^{[46][47]}

On October 17, 2019, Google Maps was updated to include incident reporting, resembling a functionality in [Waze](#) which was acquired by Google in 2013.^[48]

In December 2019, Incognito mode was added, allowing users to enter destinations without saving entries to their Google accounts.^[49]

In February 2020, Maps received a 15th anniversary redesign.^[50] It notably added a brand-new app icon, which now resembles the original icon in 2005.

On September 23, 2020, Google announced a COVID-19 Layer update for Google maps, which is designed to offer a seven-day average data of the total COVID-19-positive cases per 100,000 people in the area selected on the map. It also features a label indicating the rise and fall in the number of cases.^[51]

In January 2021, Google announced that it would be launching a new feature displaying COVID-19 vaccination sites.^[52]

In January 2021, Google announced updates to the route planner that would accommodate drivers of electric vehicles. Routing would take into account the type of vehicle, vehicle status including current charge, and the locations of charging stations.^[53]

In June 2022, Google Maps added a layer displaying air quality for certain countries.^[54]

In September 2022, Google removed the COVID-19 Layer from Google Maps due to lack of usage of the feature.^[55]

Functionality

^[edit]

Directions and transit

^[edit]

Google Maps provides a **route planner**,^[56] allowing users to find available directions through driving, public transportation, walking, or biking.^[57] Google has partnered globally with over 800 public transportation providers to adopt **GTFS** (General Transit Feed Specification), making the data available to third parties.^{[58][59]} The app can indicate users' transit route, thanks to an October 2019 update. The incognito mode, eyes-free walking navigation features were released earlier.^[60] A July 2020 update provided bike share routes.^[61]

In February 2024, Google Maps started rolling out glanceable directions for its Android and iOS apps. The feature allows users to track their journey from their device's **lock screen**.^{[62][63]}

Traffic conditions

^[edit]

Screenshot of Google Maps with traffic option enabled

Image not found or type unknown

Screenshot of Google Maps with traffic option enabled

In 2007, Google began offering traffic data as a colored overlay on top of roads and motorways to represent the speed of vehicles on particular roads. **Crowdsourcing** is used to obtain the GPS-determined locations of a large number of cellphone users, from which live traffic maps are

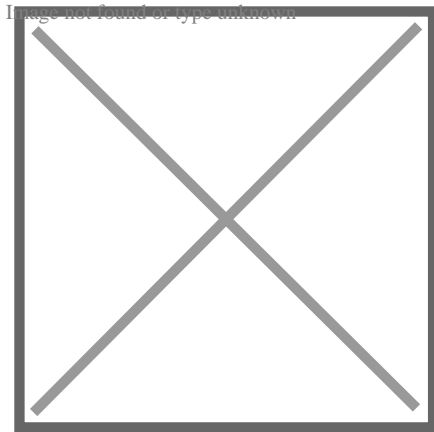
produced.^{[64][65][66]}

Google has stated that the speed and location information it collects to calculate traffic conditions is anonymous.^[67] Options available in each phone's settings allow users not to share information about their location with Google Maps.^[68] Google stated, "Once you disable or opt out of My Location, Maps will not continue to send radio information back to Google servers to determine your handset's approximate location".^[69]^{*failed verification*}

Street View

^[edit]

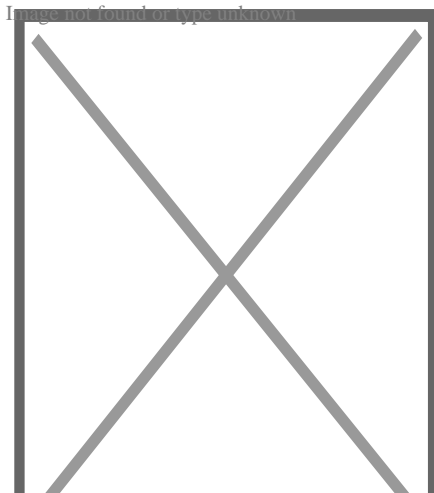
Main article: [Google Street View](#)



A Google Maps car at [Googleplex, Mountain View](#)

On May 25, 2007, Google released [Google Street View](#), a feature of Google Maps providing [360°](#) panoramic street-level views of various locations. On the date of release, the feature only included five cities in the U.S. It has since expanded to thousands of locations around the world. In July 2009, Google began mapping college campuses and surrounding paths and [trails](#).

Street View garnered much controversy after its release because of [privacy concerns](#) about the uncensored nature of the panoramic photographs, although the views are only taken on public streets.^{[70][71]} Since then, Google has blurred faces and license plates through automated [facial recognition](#).^{[72][73][74]}



Google Maps Street View Trekker backpack being implemented on the sidewalk of the Hudson River Greenway in New York City

In late 2014, Google launched Google Underwater Street View, including 2,300 kilometres (1,400 mi) of the Australian [Great Barrier Reef](#) in 3D. The images are taken by special cameras which turn 360 degrees and take shots every 3 seconds.^[75]

In 2017, in both Google Maps and Google Earth, Street View navigation of the [International Space Station](#) interior spaces became available.

3D imagery

[\[edit\]](#)

Main article: [Google Earth § 3D imagery](#)

Google Maps has incorporated^[*when?*] 3D models of hundreds of cities in over 40 countries from Google Earth into its satellite view. The models were developed using aerial [photogrammetry](#) techniques.^{[76][77]}

Immersive View

[\[edit\]](#)

At the [I/O 2022](#) event, Google announced Immersive View, a feature of Google Maps which would involve composite 3D images generated from [Street View](#) and aerial images of locations using AI, complete with synchronous information. It was to be initially in five cities worldwide, with plans to add it to other cities later on.^[78] The feature was previewed in September 2022 with 250 photorealistic aerial 3D images of landmarks,^[79] and was full launched in February 2023.^[80] An expansion of Immersive View to routes was announced at Google I/O 2023,^[81] and was launched in October 2023 for 15 cities globally.^[82]

The feature uses [predictive modelling](#) and [neural radiance fields](#) to scan Street View and aerial images to generate composite 3D imagery of locations, including both exteriors and interiors, and routes, including driving, walking or cycling, as well as generate synchronous information and forecasts up to a month ahead from historical and environmental data about both such as weather, traffic and busyness.

Immersive View has been available in the following locations:^[*citation needed*]

Locations with Immersive View

Country	Locations
 Argentina	Buenos Aires

	Australia	Melbourne, Sydney
	Austria	Vienna
	Belgium	Brussels
	Brazil	Brasília, Rio de Janeiro, São Paulo
	Canada	Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver
	Chile	Santiago
	Czech Republic	Prague
	France	Nice, Paris
	Germany	Berlin, Cologne, Frankfurt, Munich
	Greece	Athens
	Hong Kong	Hong Kong
	Hungary	Budapest
	Italy	Florence, Milan, Rome, Venice
	Japan	Kyoto, Nagoya, Osaka, Tokyo
	Mexico	Guadalajara, Mexico City
	Netherlands	Amsterdam
	Norway	Oslo
	Poland	Warsaw
	Portugal	Lisbon, Porto
	Romania	Bucharest
	Singapore	Singapore
	South Africa	Cape Town, Johannesburg
	Spain	Barcelona, Madrid
	Sweden	Stockholm
	Switzerland	Zurich
	Taiwan	Taichung, Taipei
	United Kingdom	Edinburgh, London
	United States	Atlanta, Boston, Chicago, Detroit, Houston, Las Vegas, Los Angeles, Miami, New York City, Philadelphia, San Diego, San Francisco, Seattle
	Vatican City	Vatican City

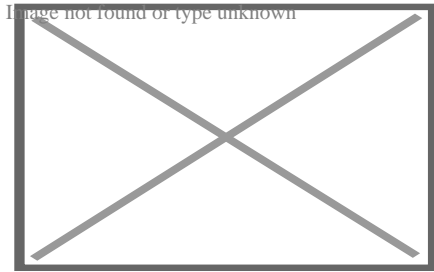
Landmark Icons

[edit]

Google added icons of city attractions, in a similar style to [Apple Maps](#), on October 3, 2019. In the first stage, such icons were added to 9 cities.^[83]

45° imagery

[\[edit\]](#)



An example of the [Leaning Tower of Pisa](#) in the 45° view

In December 2009, Google introduced a new view consisting of 45° angle aerial imagery, offering a "[bird's-eye view](#)" of cities. The first cities available were [San Jose](#) and San Diego. This feature was initially available only to developers via the Google Maps API.^[84] In February 2010, it was introduced as an experimental feature in Google Maps Labs.^[85] In July 2010, 45° imagery was made available in Google Maps in select cities in South Africa, the United States, Germany and Italy.^[86]

Weather

[\[edit\]](#)

In February 2024, Google Maps incorporated a small weather icon on the top left corner of the Android and iOS mobile apps, giving access to weather and [air quality index](#) details.^[87]

Lens in Maps

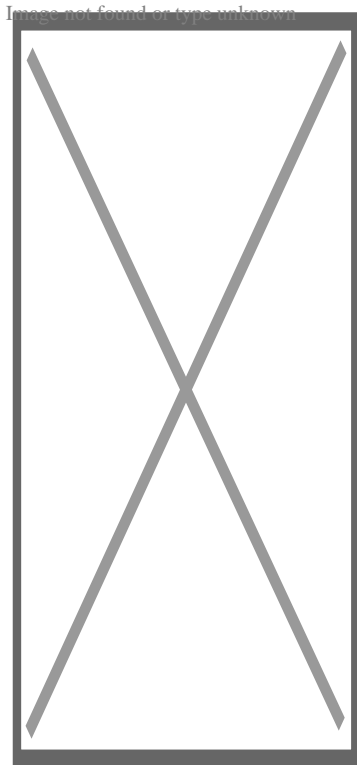
[\[edit\]](#)

Previously called Search with Live View, Lens In Maps identifies shops, restaurants, transit stations and other street features with a phone's camera and places relevant information and a category pin on top, like closing/opening times, current busyness, pricing and reviews using AI and [augmented reality](#). The feature, if available on the device, can be accessed through tapping

the Lens icon in the search bar. It was expanded to 50 new cities in October 2023 in its biggest expansion yet, after initially being released in late 2022 in Los Angeles, San Francisco, New York, London, and Paris.[88][89] Lens in Maps shares features with Live View, which also displays information relating to street features while guiding a user to a selected destination with virtual arrows, signs and guidance.[90]

Business listings

[edit]



A business listing in Google Maps showing opening times, reviews and photos. This screenshot is from the Android mobile app.

Google collates business listings from multiple on-line and off-line sources. To reduce duplication in the index, Google's algorithm combines listings automatically based on address, phone number, or geocode,[91] but sometimes information for separate businesses will be inadvertently merged with each other, resulting in listings inaccurately incorporating elements from multiple businesses.[92] Google allows business owners to create and verify their own business data through *Google Business Profile* (*GBP*), formerly *Google My Business* (*GMB*).[93] Owners are encouraged to provide Google with business information including address, phone number, business category, and photos.[94] Google has staff in India who check and correct listings remotely as well as support businesses with issues.[95] Google also has teams on the ground in most countries that validate physical addresses in person.[96] In May 2024, Google announced it would discontinue the chat feature in Google Business Profile. Starting July 15, 2024, new chat

conversations would be disabled, and by July 31, 2024, all chat functionalities would end.[97]

Google Maps can be manipulated by businesses that are not physically located in the area in which they record a listing. There are cases of people abusing Google Maps to overtake their competition by placing unverified listings on online directory sites, knowing the information will roll across to Google (duplicate sites). The people who update these listings do not use a registered business name. They place keywords and location details on their Google Maps business title, which can overtake credible business listings. In Australia in particular, genuine companies and businesses are noticing a trend of fake business listings in a variety of industries.[98]

Genuine business owners can also optimize their business listings to gain greater visibility in Google Maps, through a type of search engine marketing called [local search engine optimization](#). [99]

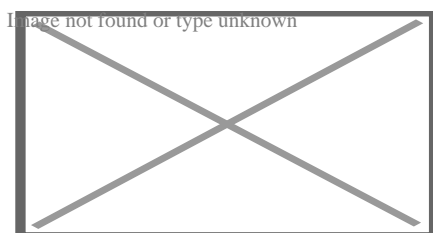
Indoor maps

[[edit](#)]

In March 2011, indoor maps were added to Google Maps, giving users the ability to navigate themselves within buildings such as [airports](#), [museums](#), shopping malls, [big-box stores](#), universities, [transit stations](#), and other public spaces (including underground facilities). Google encourages owners of public facilities to submit floor plans of their buildings in order to add them to the service.[100] Map users can view different floors of a building or [subway station](#) by clicking on a level selector that is displayed near any structures which are mapped on multiple levels.

My Maps

[[edit](#)]



Google My Maps

My Maps is a feature in Google Maps launched in April 2007 that enables users to create custom maps for personal use or sharing. Users can add points, lines, shapes, notes and images on top of Google Maps using a [WYSIWYG](#) editor.[101] An Android app for My Maps, initially released in March 2013 under the name Google Maps Engine Lite, was available until its removal from the

Play Store in October 2021.^{[102][103][104]}

Google Local Guides

[\[edit\]](#)

Google Local Guides is a volunteer program launched by Google Maps^[105] to enable users to contribute to Google Maps when registered. It sometimes provides them additional perks and benefits for their collaboration. Users can achieve Level 1 to 10, and be awarded with badges. The program is partially a successor to [Google Map Maker](#) as features from the former program became integrated into the website and app.^[106]

The program consists of adding reviews, photos, basic information, and videos; and correcting information such as [wheelchair accessibility](#).^{[107][108]} Adding reviews, photos, videos, new places, new roads or providing useful information gives points to the users.^[109] The level of users is upgraded when they get a certain amount of points.^{[110][111]} Starting with Level 4, a star is shown near the avatar of the user.^[111]

Timelapse

[\[edit\]](#)

Earth Timelapse, released in April 2021, is a program in which users can see how the earth has been changed in the last 37 years. They combined the 15 million satellite images (roughly ten quadrillion [pixels](#)) to create the 35 global cloud-free Images for this program.^[112]

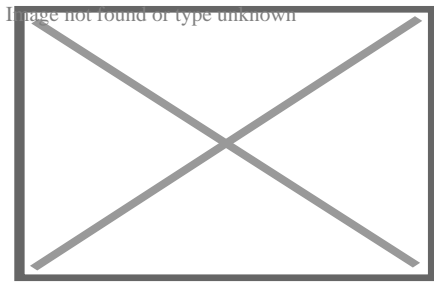
Timeline

[\[edit\]](#)

If a user shares their location with Google, Timeline summarises this location for each day on a [Timeline map](#).^[113] Timeline estimates the mode of travel used to move between places and will also show photos taken at that location. In June 2024, Google started progressively removing access to the timeline on web browsers, with the information instead being stored on a local device.^{[114][115]}

Implementation

[[edit](#)]



A split-view screenshot of Google Maps. In the bottom half *Street Maps* is shown, while in the top half *Street View* is shown. A user can zoom in and out of either of them independently of the zoom level of each.

As the user drags the map, the grid squares are downloaded from the server and inserted into the page. When a user searches for a business, the results are downloaded in the background for insertion into the side panel and map; the page is not reloaded. A hidden [iframe](#) with form submission is used because it preserves browser history. Like many other Google web applications, Google Maps uses [JavaScript](#) extensively.^[116] The site also uses protocol buffers for data transfer rather than [JSON](#), for performance reasons.

The version of [Google Street View](#) for classic Google Maps required [Adobe Flash](#).^[117] In October 2011, Google announced MapsGL, a [WebGL](#) version of Maps with better renderings and smoother transitions.^[118] Indoor maps use JPG, .PNG, .PDF, .BMP, or .GIF, for [floor plans](#).^[119]

Users who are logged into a [Google Account](#) can save locations so that they are overlaid on the map with various colored "pins" whenever they browse the application. These "Saved places" can be organized into default groups or user named groups and shared with other users. "Starred places" is one default group example. It previously automatically created a record within the now-discontinued product [Google Bookmarks](#).

Map data and imagery

[[edit](#)]

See also: [List of satellite map images with missing or unclear data](#)

The Google Maps terms and conditions^[120] state that usage of material from Google Maps is regulated by Google Terms of Service^[121] and some additional restrictions. Google has either purchased local map data from established companies, or has entered into lease agreements to use copyrighted map data.^[122] The owner of the copyright is listed at the bottom of zoomed maps. For example, street maps in Japan are leased from [Zenrin](#). Street maps in China are leased from [AutoNavi](#).^[123] Russian street maps are leased from Geocentre Consulting and [Tele Atlas](#). Data for [North Korea](#) is sourced from the companion project [Google Map Maker](#).

Street map overlays, in some areas, may not match up precisely with the corresponding satellite images. The street data may be entirely erroneous, or simply out of date: "The biggest challenge is the currency of data, the authenticity of data," said Google Earth representative [Brian McClendon](#). As a result, in March 2008 Google added a feature to edit the locations of houses and businesses.[\[124\]](#)[\[125\]](#)

Restrictions have been placed on Google Maps through the apparent censoring of locations deemed potential security threats. In some cases the area of redaction is for specific buildings, but in other cases, such as Washington, D.C.,[\[126\]](#) the restriction is to use outdated imagery.

Google Maps API

[\[edit\]](#)

Google Maps API, now called Google Maps Platform, hosts about 17 different [APIs](#), which are themed under the following categories: Maps, Places and Routes.[\[127\]](#)

After the success of reverse-engineered mashups such as [chicagocrime.org](#) and [housingmaps.com](#), Google launched the Google Maps API in June 2005[\[128\]](#) to allow developers to integrate Google Maps into their websites. It was a free service that did not require an [API key](#) until June 2018 (changes went into effect on July 16), when it was announced that an API key linked to a Google Cloud account with billing enabled would be required to access the API.[\[129\]](#) The API currently does not contain ads, but Google states in their terms of use that they reserve the right to display ads in the future.[\[130\]](#)

By using the Google Maps [API](#), it is possible to embed Google Maps into an external website, onto which site-specific data can be overlaid.[\[131\]](#) Although initially only a [JavaScript](#) API, the Maps API was expanded to include an API for [Adobe Flash](#) applications (but this has been deprecated), a service for retrieving static map images, and [web services](#) for performing [geocoding](#), generating driving directions, and obtaining elevation profiles. Over 1,000,000[\[132\]](#) web sites use the Google Maps API, making it the most heavily used web application development API.[\[133\]](#) In September 2011, Google announced it would deprecate the Google Maps API for Flash.[\[134\]](#)

The Google Maps API was free for commercial use, provided that the site on which it is being used is publicly accessible and did not charge for access, and was not generating more than 25,000 map accesses a day.[\[135\]](#)[\[136\]](#) Sites that did not meet these requirements could purchase the Google Maps API for Business.[\[137\]](#)

As of June 21, 2018, Google increased the prices of the Maps API and requires a billing profile.[\[138\]](#)

Google Maps in China

[[edit](#)]

Due to [restrictions on geographic data in China](#), Google Maps must partner with a Chinese digital map provider in order to legally show Chinese map data. Since 2006, this partner has been [AutoNavi](#).^[123]

Within China, the State Council mandates that all maps of China use the [GCJ-02](#) coordinate system, which is offset from the [WGS-84](#) system used in most of the world. [google.cn/maps](#) (formerly Google Ditu) uses the GCJ-02 system for both its street maps^[139] and satellite imagery.^[140] [google.com/maps](#) also uses GCJ-02 data for the street map, but uses WGS-84 coordinates for satellite imagery,^[141] causing the so-called [China GPS shift problem](#).

Frontier alignments also present some differences between [google.cn/maps](#) and [google.com/maps](#). On the latter, sections of the Chinese border with India and Pakistan are shown with dotted lines, indicating areas or frontiers in dispute. However, [google.cn](#) shows the Chinese frontier strictly according to Chinese claims with no dotted lines indicating the border with India and Pakistan. For example, the [South Tibet](#) region claimed by China but administered by India as a large part of [Arunachal Pradesh](#) is shown inside the Chinese frontier by [google.cn](#), with Indian highways ending abruptly at the Chinese claim line. [Google.cn](#) also shows Taiwan and the [South China Sea Islands](#) as part of China. Google Ditu's street map coverage of Taiwan no longer omits major state organs, such as the Presidential Palace, the [five Yuans](#), and the Supreme Court.^[142]^{[[addition needed](#)]}

Feature-wise, [google.cn/maps](#) does not feature My Maps. On the other hand, while [google.cn](#) displays virtually all text in Chinese, [google.com/maps](#) displays most text (user-selectable real text as well as those on map) in English.^{[[citation needed](#)]} This behavior of displaying English text is not consistent but intermittent – sometimes it is in English, sometimes it is in Chinese. The criteria for choosing which language is displayed are not known publicly.^{[[citation needed](#)]}

Criticism and controversies

[[edit](#)]

Incorrect location naming

[[edit](#)]

There are cases where Google Maps had added out-of-date neighborhood monikers. Thus, in Los Angeles, the name "Brooklyn Heights" was revived from its 1870s usage^[143] and "Silver Lake Heights" from its 1920s usage,^[144] or mistakenly renamed areas (in Detroit, the neighborhood

"Fiskhorn" became "Fishkorn").^[145] Because many companies utilize Google Maps data, these previously obscure or incorrect names then gain traction; the names are often used by [realtors](#), hotels, [food delivery](#) sites, [dating sites](#), and [news organizations](#).

Google has said it created its maps from third-party data, public sources, satellites, and users, but many names used have not been connected to any official record.^{[143][145]} According to a former Google Maps employee (who was not authorized to speak publicly), users can submit changes to Google Maps, but some submissions are ruled upon by people with little local knowledge of a place, such as contractors in India. Critics maintain that names like "BoCoCa" (for the area in Brooklyn between Boerum Hill, Cobble Hill and Carroll Gardens), are "just plain puzzling" or simply made up.^[145] Some names used by Google have been traced to non-professionally made maps with typographical errors that survived on Google Maps.^[145]

Potential misuse

[\[edit\]](#)

See also: [Google Street View privacy concerns](#) and [List of satellite map images with missing or unclear data](#)

In 2005 the [Australian Nuclear Science and Technology Organisation](#) (ANSTO) complained about the potential for terrorists to use the satellite images in planning attacks, with specific reference to the [Lucas Heights nuclear reactor](#); however, the Australian Federal government did not support the organization's concern. At the time of the ANSTO complaint, Google had colored over some areas for security (mostly in the U.S.), such as the rooftop of the [White House](#) and several other Washington, D.C. buildings.^{[146][147][148]}

In October 2010, Nicaraguan military commander [Edén Pastora](#) stationed [Nicaraguan troops](#) on the [Isla Calero](#) (in the delta of the [San Juan River](#)), justifying his action on the border delineation given by Google Maps. Google has since updated its data which it found to be incorrect.^[149]

On January 27, 2014, documents leaked by [Edward Snowden](#) revealed that the [NSA](#) and the [GCHQ](#) intercepted Google Maps queries made on smartphones, and used them to locate the users making these queries. One leaked document, dating to 2008, stated that "[i]t effectively means that anyone using Google Maps on a smartphone is working in support of a GCHQ system."^[150]

In May 2015, searches on Google Maps for offensive racial epithets for African Americans such as "[nigger](#)", "nigger king", and "nigger house" pointed the user to the [White House](#); Google apologized for the incident.^{[151][152]}

In December 2015, 3 Japanese [netizens](#) were charged with vandalism after they were found to have added an unrelated law firm's name as well as indecent names to locations such as "[Nuclear test site](#)" to the [Atomic Bomb Dome](#) and "Izumo [Satya](#)" to the [Izumo Taisha](#).^{[153][154]}

In February 2020, the artist Simon Weckert^[155] used 99 cell phones to fake a Google Maps traffic jam.^[156]

In September 2024, several schools in Taiwan and Hong Kong were altered to incorrect labels, such as "[psychiatric hospitals](#)" or "[prisons](#)". Initially, it was believed to be the result of hacker attacks. However, police later revealed that local students had carried out the prank. Google quickly corrected the mislabeled entries. Education officials in Taiwan and Hong Kong expressed concern over the incident.^[157]^[158]^[159]

Misdirection incidents

[\[edit\]](#)

Australia

[\[edit\]](#)

In August 2023, a woman driving from [Alice Springs](#) to the Harts Range Racecourse was stranded in the Central Australian desert for a night after following directions provided by Google Maps.^[160]^[161] She later discovered that Google Maps was providing directions for the actual [Harts Range](#) instead of the rodeo. Google said it was looking into the naming of the two locations and consulting with "local and authoritative sources" to solve the issue.^[160]

In February 2024, two German tourists were stranded for a week after Google Maps directed them to follow a dirt track through [Oyala Thumotang National Park](#) and their vehicle became trapped in mud.^[162]^[163] [Queensland Parks and Wildlife Service](#) ranger Roger James said, "People should not trust Google Maps when they're travelling in remote regions of [Queensland](#), and they need to follow the signs, use official maps or other navigational devices."^[162]

North America

[\[edit\]](#)

In June 2019, Google Maps provided nearly 100 [Colorado](#) drivers an alternative route that led to a dirt road after a crash occurred on [Peña Boulevard](#). The road had been turned to mud by rain, resulting in nearly 100 vehicles being trapped.^[164]^[161] Google said in a statement, "While we always work to provide the best directions, issues can arise due to unforeseen circumstances such as weather. We encourage all drivers to follow local laws, stay attentive, and use their best judgment while driving."^[164]

In September 2023, Google was sued by a [North Carolina](#) resident who alleged that Google Maps had directed her husband over the Snow Creek Bridge in [Hickory](#) the year prior, resulting in him

drowning. According to the lawsuit, multiple people had notified Google about the state of the bridge, which collapsed in 2013, but Google had not updated the route information and continued to direct users over the bridge.^{[165][166][161]} At the time of the man's death, the barriers placed to block access to the bridge had been vandalized.^{[167][168]}

In November 2023, a hiker was rescued by helicopter on the backside of **Mount Fromme** in **Vancouver**. **North Shore Rescue** stated on its Facebook page that the hiker had followed a non-existent hiking trail on Google Maps. This was also the second hiker in two months to require rescuing after following the same trail. The fake trail has since been removed from the app.^{[169][170]}

Also in November 2023, Google apologized after users were directed through desert roads after parts of **Interstate 15** were closed due to a **dust storm**.^[171] Drivers became stranded after following the suggested detour route, which was a "bumpy dirt trail".^[172] Following the incident, Google stated that Google Maps would "no longer route drivers traveling between **Las Vegas** and **Barstow** down through those roads."^[171]

Russia

^[edit]

In 2020, a teenage motorist was found frozen to death while his passenger was still alive but suffered from severe **frostbite** after using Google Maps, which had led them to a shorter but abandoned section of the **R504 Kolyma Highway**, where their **Toyota Chaser** became disabled.^[173]

India

^[edit]

In 2024, three men from **Uttar Pradesh** died after their car fell from an under-construction bridge. They were using Google Maps for driving which misdirected them and the car fell into the **Ramganga** river.^{[174][175]}

Renaming of the Gulf of Mexico

^[edit]

In February 2025, as a response to Donald Trump's **Executive Order 14172**, the **Gulf of Mexico** was renamed to "Gulf of America" for US users and "Gulf of Mexico (Gulf of America)" elsewhere, except for Mexico itself where it remained the Gulf of Mexico. The decision received criticism, with

Mexican president [Claudia Sheinbaum](#) asking Google to reconsider its decision.^[176] Google subsequently blocked and deleted negative reviews of the gulf after the name change occurred.^{[177][178]}

Discontinued features

[\[edit\]](#)

Google Latitude

[\[edit\]](#)

Main article: [Google Latitude](#)

Google Latitude was a feature that let users share their physical locations with other people. This service was based on Google Maps, specifically on mobile devices. There was an iGoogle widget for desktops and laptops as well.^[179] Some concerns were expressed about the privacy issues raised by the use of the service.^[180] On August 9, 2013, this service was discontinued,^[181] and on March 22, 2017, Google incorporated the features from Latitude into the Google Maps app.^[182]

Google Map Maker

[\[edit\]](#)

Main article: [Google Map Maker](#)

In areas where Google Map Maker was available, for example, much of Asia, Africa, Latin America and Europe as well as the United States and Canada, anyone who logged into their Google account could directly improve the map by fixing incorrect driving directions, adding biking trails, or adding a missing building or road. General map errors in Australia, Austria, Belgium, Denmark, France, Liechtenstein, Netherlands, New Zealand, Norway, South Africa, Switzerland, and the United States could be reported using the Report a Problem link in Google Maps and would be updated by Google.^[183] For areas where Google used [Tele Atlas](#) data, map errors could be reported using Tele Atlas map insight.^[184]

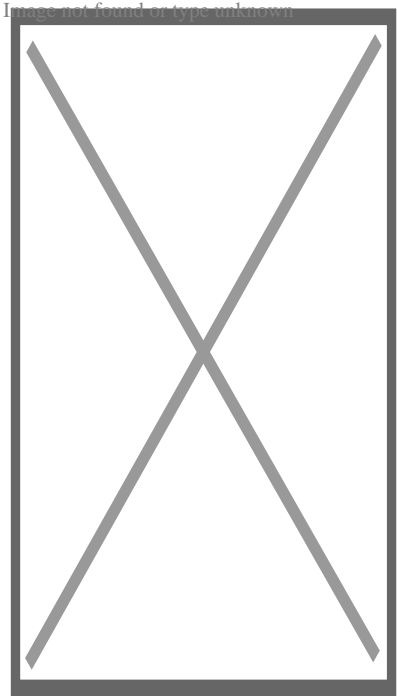
If imagery was missing, outdated, misaligned, or generally incorrect, one could notify Google through their contact request form.^[185]

In November 2016, Google announced the discontinuation of Google Map Maker as of March 2017.^[186]

Mobile app

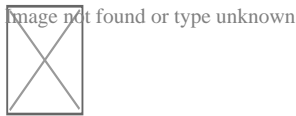
[edit]

Screenshot



Screenshot of Google Maps on **Android 14**
25.10.04 (Build 732665141) / 7 March 2025; 10 days ago[187][188]
25.09.00 (Build 730474011) / 25 February 2025; 20 days ago[187][189]
iOS 25.10.02 / 7 March 2025; 10 days ago[190]
Android Go,[a] discontinued 161.1 / 13 October 2023; 17 months ago[191][192]
Android (Beta) 11.143.0303 / 20 August 2024; 6 months ago[193]

Google Maps



Original author(s) Google
Initial release 2006; 19 years ago
Stable release(s) [±]
Preview release(s) [±]

- Android
 - iOS
- Operating system**
- KaiOS Wear OS WatchOS Web Fitbit OS

Formerly: [Java ME](#), [Symbian](#), [Windows Mobile](#)

Google Maps is available as a [mobile app](#) for the [Android](#) and [iOS](#) mobile operating systems. The first mobile version of Google Maps (then known as Google Local for Mobile) was launched in beta in November 2005 for mobile platforms supporting [J2ME](#).^{[194][195][196]} It was released as Google Maps for Mobile in 2006.^[197] In 2007 it came preloaded on the [first iPhone](#) in a deal with Apple.^[198] A version specifically for [Windows Mobile](#) was released in February 2007^[199] and the [Symbian](#) app was released in November 2007.^[200]

Version 2.0 of Google Maps Mobile was announced at the end of 2007, with a stand out *My Location* feature to find the user's location using the cell towers, without needing [GPS](#).^{[201][202][203]} In September 2008, Google Maps was released for and preloaded on Google's own new platform Android.^{[204][205]}

Up until [iOS 6](#), the built-in maps application on the [iOS](#) operating system was powered by Google Maps. However, with the announcement of iOS 6 in June 2012, [Apple](#) announced that they had created their own [Apple Maps](#) mapping service,^[206] which officially replaced Google Maps when iOS 6 was released on September 19, 2012.^[207] However, at launch, Apple Maps received significant criticism from users due to inaccuracies, errors and [bugs](#).^{[208][209]} One day later, *The Guardian* reported that Google was preparing its own Google Maps app,^[210] which was released on December 12, 2012.^{[211][212]} Within two days, the application had been downloaded over ten million times.^[213]

Features

[\[edit\]](#)

The Google Maps apps for iOS and Android have many of the same features, including [turn-by-turn navigation](#), [street view](#), and public transit information.^{[214][215]} Turn-by-turn navigation was originally announced by Google as a separate beta testing app exclusive to Android 2.0 devices in October 2009.^{[216][217]} The original standalone iOS version did not support the [iPad](#),^[215] but tablet support was added with version 2.0 in July 2013.^[218] An update in June 2012 for Android devices added support for offline access to downloaded maps of certain regions,^{[219][220]} a feature that was eventually released for iOS devices, and made more robust on Android, in May 2014.^{[221][222]}

At the end of 2015 Google Maps announced its new offline functionality,^[223] but with various limitations – downloaded area cannot exceed 120,000 square kilometers^{[224][225]} and require a

considerable amount of storage space.[226] In January 2017, Google added a feature exclusively to Android that will, in some U.S. cities, indicate the level of difficulty in finding available parking spots,[227] and on both Android and iOS, the app can, as of an April 2017 update, remember where users parked.[228][229] In August 2017, Google Maps for Android was updated with new functionality to actively help the user in finding parking lots and garages close to a destination. [230] In December 2017, Google added a new two-wheeler mode to its Android app, designed for users in India, allowing for more accessibility in traffic conditions.[231][232] In 2019 the Android version introduced the new feature called live view that allows to view directions directly on the road thanks to [augmented reality](#). [233] Google Maps won the 2020 Webby Award for Best User Interface in the category Apps, Mobile & Voice. [234] In March 2021, Google added a feature in which users can draw missing roads. [235] In June 2022, Google implemented support for toll calculation. Both iOS and Android apps report how much the user has to pay in tolls when a route that includes toll roads is input. The feature is available for roads in the US, India, Japan and Indonesia with further expansion planned. As per reports the total number of toll roads covered in this phase is around 2000. [236]

Reception

[[edit](#)]

USA Today welcomed the application back to iOS, saying: "The reemergence in the middle of the night of a Google Maps app for the iPhone is like the return of an old friend. Only your friend, who'd gone missing for three months, comes back looking better than ever." [237] Jason Parker of *CNET*, calling it "the king of maps", said, "With its iOS Maps app, Google sets the standard for what mobile navigation should be and more." [238] Bree Fowler of the *Associated Press* compared Google's and Apple's map applications, saying: "The one clear advantage that Apple has is style. Like Apple devices, the maps are clean and clear and have a fun, pretty element to them, especially in 3-D. But when it comes down to depth and information, Google still reigns superior and will no doubt be welcomed back by its fans." [239] *Gizmodo* gave it a ranking of 4.5 stars, stating: "Maps Done Right". [240] According to *The New York Times*, Google "admits that it's [iOS app is] even better than Google Maps for Android phones, which has accommodated its evolving feature set mainly by piling on menus". [241]

Google Maps' [location tracking](#) is regarded by some as a threat to users' privacy, with Dylan Tweney of *VentureBeat* writing in August 2014 that "Google is probably logging your location, step by step, via Google Maps", and linked users to Google's location history map, which "lets you see the path you've traced for any given day that your smartphone has been running Google Maps". Tweney then provided instructions on how to disable location history. [242] The history tracking was also noticed, and recommended disabled, by editors at *CNET* [243] and *TechCrunch*. [244] Additionally, *Quartz* reported in April 2014 that a "sneaky new privacy change" would have an effect on the majority of iOS users. The privacy change, an update to the *Gmail* iOS app that "now supports sign-in across Google iOS apps, including Maps, *Drive*, YouTube and *Chrome*", meant that Google would be able to identify users' actions across its different apps. [245]

The Android version of the app surpassed five billion installations in March 2019.^[246] By November 2021, the Android app had surpassed 10 billion installations.^[247]

Go version

^{[[edit](#)]}

Google Maps Go, a version of the app designed for **lower-end devices**, was released in beta in January 2018.^[248] By September 2018, the app had over 10 million installations.^[249]

Artistic and literary uses

^{[[edit](#)]}

The German "geo-novel" *Senghor on the Rocks* (2008) presents its story as a series of spreads showing a Google Maps location on the left and the story's text on the right. Annika Richterich explains that the "satellite pictures in *Senghor on the Rocks* illustrate the main character's travel through the West-African state of **Senegal**".^[250]

Artists have used Google Street View in a range of ways. **Emilio Vavarella's** *The Google Trilogy* includes glitchy images and unintended portraits of the drivers of the Street View cars.^[251] The Japanese band **group inou** used Google Street View backgrounds to make a music video for their song EYE.^[252] The Canadian band **Arcade Fire** made a customized music video that used Street View to show the viewer their own childhood home.^{[253][254]}

See also

^{[[edit](#)]}

- icon

Image not found or link is unknown

Internet portal
- Azure Maps**
 - Apple Maps**
 - Bing Maps**
 - Comparison of web map services**
 - GeoGuessr**
 - Google Earth**
 - Google Maps Road Trip***, live-streaming documentary
 - Here WeGo**
 - MapQuest**
 - OpenStreetMap**
 - Terravision (computer program)**
 - Wikiloc**, a mashup that shows trails and waypoints on Google Maps

- [Wikimapia](#), a mashup combining Google Maps and a [wiki](#) aimed at "describing the whole planet earth"
- [Yandex Maps](#), popular in Russia and [CIS](#)

Notes

[[edit](#)]

1. [^] Lite version for Android

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- 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)

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Related

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- Google bombing
 - 2004 U.S. presidential election
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- Googlefight
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- Googleshare
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Android

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Executives

Current

- [Sundar Pichai \(CEO\)](#)
- [Ruth Porat \(president and CIO\)](#)
- [Anat Ashkenazi \(CFO\)](#)

Former

- [Larry Page \(CEO\)](#)
- [Sergey Brin \(President\)](#)
- [David Drummond \(CLO\)](#)

People

Current

Board of directors

- [Frances Arnold](#)
- [Sergey Brin](#)
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- [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

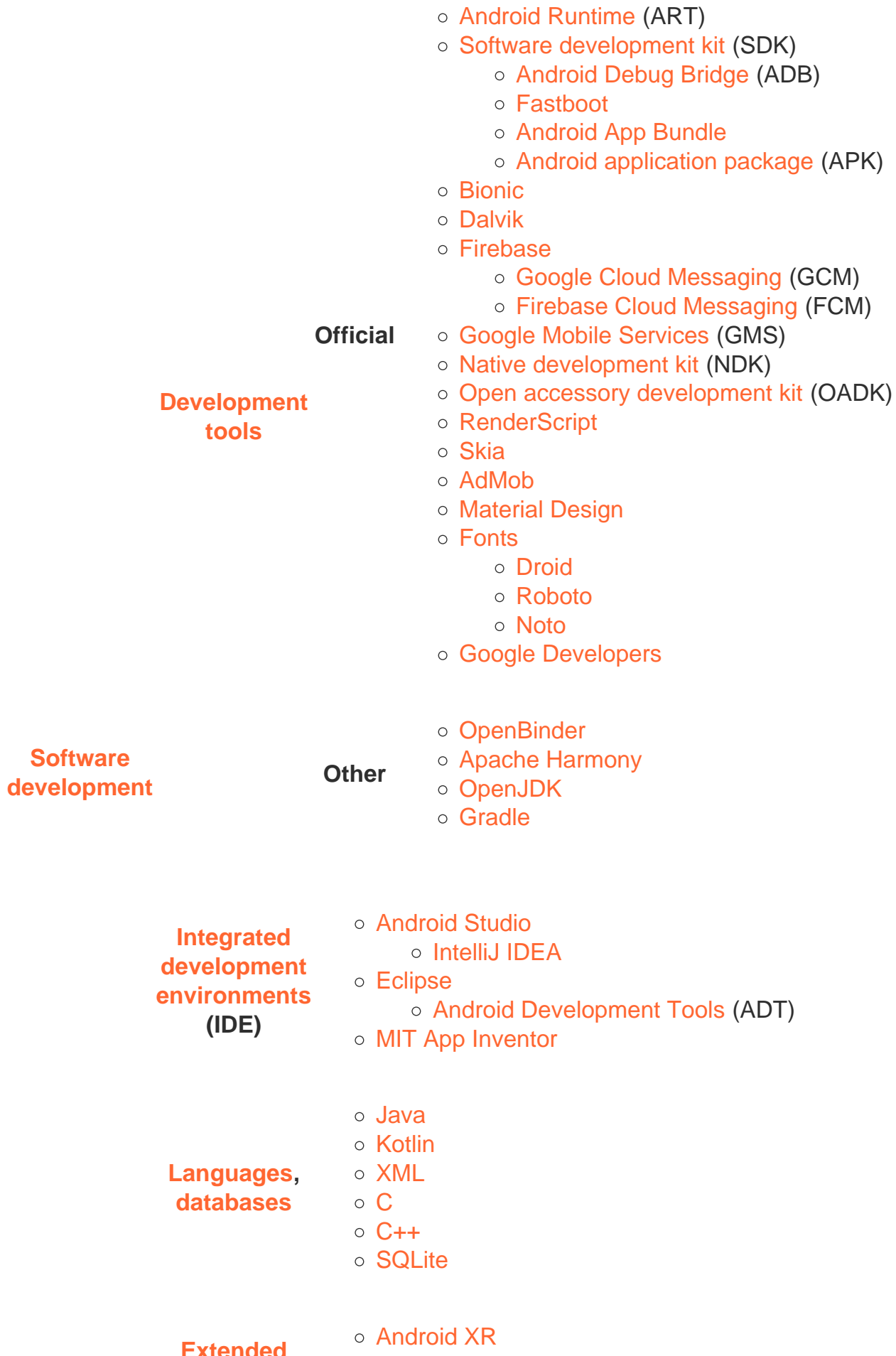
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- **v**
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Android

- Android Go
 - Comparison of products



Releases

- Cupcake (1.5)
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- Froyo (2.2)
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- 4 & 4 XL
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 - 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

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- 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
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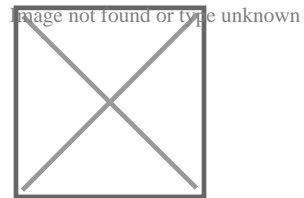
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Other

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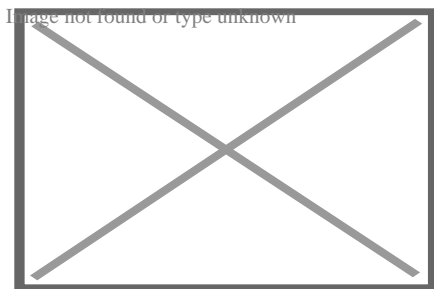
About Web design

Web design encompasses many different skills and disciplines in the production and maintenance of [websites](#). The different areas of web design include web graphic design; [user interface design](#) (UI design); authoring, including standardised code and [proprietary software](#); [user experience design](#) (UX design); and [search engine optimization](#). Often many individuals will work in teams covering different aspects of the design process, although some designers will cover them all.^[1] The term "web design" is normally used to describe the design process relating to the front-end (client side) design of a website including writing [markup](#). Web design partially overlaps [web engineering](#) in the broader scope of [web development](#). Web designers are expected to have an awareness of [usability](#) and be up to date with [web accessibility](#) guidelines.

History

[\[edit\]](#)

See also: [History of the World Wide Web](#)



Web design books in a store

1988–2001

[[edit](#)]

Although web design has a fairly recent history, it can be linked to other areas such as graphic design, user experience, and multimedia arts, but is more aptly seen from a technological standpoint. It has become a large part of people's everyday lives. It is hard to imagine the Internet without animated graphics, different styles of [typography](#), backgrounds, videos and music. The web was announced on August 6, 1991; in November 1992, [CERN](#) was the first website to go live on the World Wide Web. During this period, websites were structured by using the `<table>` tag which created numbers on the website. Eventually, web designers were able to find their way around it to create more structures and formats. In early history, the structure of the websites was fragile and hard to contain, so it became very difficult to use them. In November 1993, [ALIWEB](#) was the first ever search engine to be created (Archie Like Indexing for the WEB).^[2]

The start of the web and web design

[[edit](#)]

In 1989, whilst working at [CERN](#) in Switzerland, British scientist [Tim Berners-Lee](#) proposed to create a global [hypertext](#) project, which later became known as the [World Wide Web](#). From 1991 to 1993 the World Wide Web was born. [Text-only HTML](#) pages could be viewed using a simple line-mode [web browser](#).^[3] In 1993 [Marc Andreessen](#) and [Eric Bina](#), created the [Mosaic browser](#). At the time there were multiple browsers, however the majority of them were Unix-based and naturally text-heavy. There had been no integrated approach to [graphic design](#) elements such as [images](#) or [sounds](#). The [Mosaic browser](#) broke this mould.^[4] The [W3C](#) was created in October 1994 to "lead the World Wide Web to its full potential by developing common [protocols](#) that promote its evolution and ensure its [interoperability](#)."^[5] This discouraged any one company from monopolizing a proprietary browser and [programming language](#), which could have altered the effect of the World Wide Web as a whole. The W3C continues to set standards, which can today be seen with [JavaScript](#) and other languages. In 1994 Andreessen formed Mosaic Communications Corp. that later became known as [Netscape Communications](#), the [Netscape 0.9 browser](#). Netscape created its HTML tags without regard to the traditional standards process. For example, Netscape 1.1 included tags for changing background colours and formatting text with [tables](#) on web pages. From 1996 to 1999 the [browser wars](#) began, as [Microsoft](#) and [Netscape](#) fought for ultimate browser dominance. During this time there were many new technologies in the field, notably [Cascading Style Sheets](#), [JavaScript](#), and [Dynamic HTML](#). On the whole, the browser competition did lead to many positive creations and helped web design evolve at a rapid pace.^[6]

Evolution of web design

[edit]

In 1996, Microsoft released its first competitive browser, which was complete with its features and HTML tags. It was also the first browser to support style sheets, which at the time was seen as an obscure authoring technique and is today an important aspect of web design.[6] The **HTML markup** for **tables** was originally intended for displaying tabular data. However, designers quickly realized the potential of using HTML tables for creating complex, multi-column layouts that were otherwise not possible. At this time, as design and good aesthetics seemed to take precedence over good markup structure, little attention was paid to semantics and **web accessibility**. HTML sites were limited in their design options, even more so with earlier versions of HTML. To create complex designs, many web designers had to use complicated table structures or even use blank **spacer .GIF** images to stop empty table cells from collapsing.[7] **CSS** was introduced in December 1996 by the **W3C** to support presentation and layout. This allowed **HTML** code to be semantic rather than both semantic and presentational and improved web accessibility, see **tableless web design**.

In 1996, **Flash** (originally known as FutureSplash) was developed. At the time, the Flash content development tool was relatively simple compared to now, using basic layout and drawing tools, a limited precursor to **ActionScript**, and a timeline, but it enabled web designers to go beyond the point of HTML, **animated GIFs** and **JavaScript**. However, because Flash required a **plug-in**, many web developers avoided using it for fear of limiting their market share due to lack of compatibility. Instead, designers reverted to **GIF** animations (if they did not forego using **motion graphics** altogether) and JavaScript for **widgets**. But the benefits of Flash made it popular enough among specific target markets to eventually work its way to the vast majority of browsers, and powerful enough to be used to develop entire sites.[7]

End of the first browser wars

[edit]

Further information: **Browser wars § First Browser War (1995–2001)**

In 1998, Netscape released Netscape Communicator code under an **open-source licence**, enabling thousands of developers to participate in improving the software. However, these developers decided to start a standard for the web from scratch, which guided the development of the open-source browser and soon expanded to a complete application platform.[6] The **Web Standards Project** was formed and promoted browser compliance with **HTML** and **CSS** standards. Programs like **Acid1**, **Acid2**, and **Acid3** were created in order to test browsers for compliance with web standards. In 2000, Internet Explorer was released for Mac, which was the first browser that fully supported HTML 4.01 and CSS 1. It was also the first browser to fully support the **PNG** image format.[6] By 2001, after a campaign by Microsoft to popularize Internet Explorer, Internet Explorer had reached 96% of **web browser usage share**, which signified the end of the first browser wars as Internet Explorer had no real competition.[8]

2001–2012

[\[edit\]](#)

Since the start of the 21st century, the web has become more and more integrated into people's lives. As this has happened the technology of the web has also moved on. There have also been significant changes in the way people use and access the web, and this has changed how sites are designed.

Since the end of the **browsers wars**^{[\[when?\]](#)} new browsers have been released. Many of these are **open source**, meaning that they tend to have faster development and are more supportive of new standards. The new options are considered by many^{[\[weasel words\]](#)} to be better than Microsoft's **Internet Explorer**.

The **W3C** has released new standards for HTML (**HTML5**) and CSS (**CSS3**), as well as new **JavaScript APIs**, each as a new but individual standard.^{[\[when?\]](#)} While the term HTML5 is only used to refer to the new version of HTML and *some* of the JavaScript APIs, it has become common to use it to refer to the entire suite of new standards (HTML5, CSS3 and JavaScript).

2012 and later

[\[edit\]](#)

With the advancements in **3G** and **LTE** internet coverage, a significant portion of website traffic shifted to mobile devices. This shift influenced the web design industry, steering it towards a minimalist, lighter, and more simplistic style. The "mobile first" approach emerged as a result, emphasizing the creation of website designs that prioritize mobile-oriented layouts first, before adapting them to larger screen dimensions.

Tools and technologies

[\[edit\]](#)

Web designers use a variety of different tools depending on what part of the production process they are involved in. These tools are updated over time by newer standards and software but the principles behind them remain the same. Web designers use both **vector** and **raster** graphics editors to create web-formatted imagery or design prototypes. A website can be created using **WYSIWYG website builder** software or a **content management system**, or the individual web pages can be **hand-coded** in just the same manner as the first web pages were created. Other tools web designers might use include markup **validators**^{[\[9\]](#)} and other testing tools for usability and accessibility to ensure their websites meet web accessibility guidelines.^{[\[10\]](#)}

UX Design

[\[edit\]](#)

One popular tool in web design is UX Design, a type of art that designs products to perform an accurate user background. UX design is very deep. UX is more than the web, it is very independent, and its fundamentals can be applied to many other browsers or apps. Web design is mostly based on web-based things. UX can overlap both web design and design. UX design mostly focuses on products that are less web-based. [\[11\]](#)

Skills and techniques

[\[edit\]](#)

Marketing and communication design

[\[edit\]](#)

Marketing and communication design on a website may identify what works for its target market. This can be an age group or particular strand of culture; thus the designer may understand the trends of its audience. Designers may also understand the type of website they are designing, meaning, for example, that (B2B) [business-to-business](#) website design considerations might differ greatly from a consumer-targeted website such as a [retail](#) or entertainment website. Careful consideration might be made to ensure that the aesthetics or overall design of a site do not clash with the clarity and accuracy of the content or the ease of [web navigation](#), [\[12\]](#) especially on a B2B website. Designers may also consider the reputation of the owner or business the site is representing to make sure they are portrayed favorably. Web designers normally oversee all the websites that are made on how they work or operate on things. They constantly are updating and changing everything on websites behind the scenes. All the elements they do are text, photos, graphics, and layout of the web. Before beginning work on a website, web designers normally set an appointment with their clients to discuss layout, colour, graphics, and design. Web designers spend the majority of their time designing websites and making sure the speed is right. Web designers typically engage in testing and working, marketing, and communicating with other designers about laying out the websites and finding the right elements for the websites. [\[13\]](#)

User experience design and interactive design

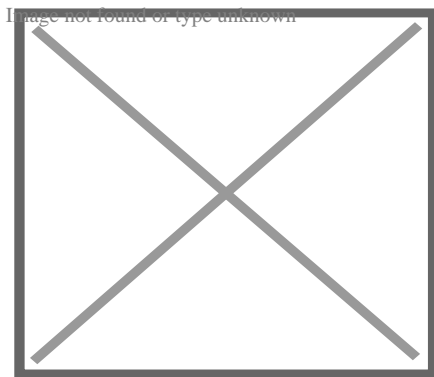
[\[edit\]](#)

User understanding of the content of a website often depends on user understanding of how the website works. This is part of the [user experience design](#). User experience is related to layout, clear instructions, and labeling on a website. How well a user understands how they can interact on a site may also depend on the [interactive design](#) of the site. If a user perceives the usefulness of the website, they are more likely to continue using it. Users who are skilled and well versed in website use may find a more distinctive, yet less intuitive or less [user-friendly](#) website interface useful nonetheless. However, users with less experience are less likely to see the advantages or usefulness of a less intuitive website interface. This drives the trend for a more universal user experience and ease of access to accommodate as many users as possible regardless of user skill.^[14] Much of the user experience design and interactive design are considered in the [user interface design](#).

Advanced interactive functions may require [plug-ins](#) if not advanced coding language skills. Choosing whether or not to use interactivity that requires plug-ins is a critical decision in user experience design. If the plug-in doesn't come pre-installed with most browsers, there's a risk that the user will have neither the know-how nor the patience to install a plug-in just to access the content. If the function requires advanced coding language skills, it may be too costly in either time or money to code compared to the amount of enhancement the function will add to the user experience. There's also a risk that advanced interactivity may be incompatible with older browsers or hardware configurations. Publishing a function that doesn't work reliably is potentially worse for the user experience than making no attempt. It depends on the target audience if it's likely to be needed or worth any risks.

Progressive enhancement

[\[edit\]](#)



The order of progressive enhancement

Main article: [Progressive enhancement](#)

Progressive enhancement is a strategy in web design that puts emphasis on [web content](#) first, allowing [everyone to access](#) the basic content and functionality of a web page, whilst [users](#) with additional browser features or faster Internet access receive the enhanced version instead.

In practice, this means serving content through **HTML** and applying styling and animation through **CSS** to the technically possible extent, then applying further enhancements through **JavaScript**. Pages' text is loaded immediately through the HTML source code rather than having to wait for JavaScript to initiate and load the content subsequently, which allows content to be readable with minimum loading time and bandwidth, and through **text-based browsers**, and maximizes **backwards compatibility**.^[15]

As an example, **MediaWiki**-based sites including Wikipedia use progressive enhancement, as they remain usable while JavaScript and even CSS is deactivated, as pages' content is included in the page's HTML source code, whereas counter-example **Everipedia** relies on JavaScript to load pages' content subsequently; a blank page appears with JavaScript deactivated.

Page layout

[\[edit\]](#)

Part of the user interface design is affected by the quality of the **page layout**. For example, a designer may consider whether the site's page layout should remain consistent on different pages when designing the layout. Page pixel width may also be considered vital for aligning objects in the layout design. The most popular fixed-width websites generally have the same set width to match the current most popular browser window, at the current most popular screen resolution, on the current most popular monitor size. Most pages are also center-aligned for concerns of **aesthetics** on larger screens.

Fluid layouts increased in popularity around 2000 to allow the browser to make user-specific layout adjustments to fluid layouts based on the details of the reader's screen (window size, font size relative to window, etc.). They grew as an alternative to HTML-table-based layouts and **grid-based design** in both page layout design principles and in coding technique but were very slow to be adopted.^[note 1] This was due to considerations of **screen reading devices** and varying windows sizes which designers have no control over. Accordingly, a design may be broken down into units (sidebars, content blocks, **embedded advertising** areas, navigation areas) that are sent to the browser and which will be fitted into the display window by the browser, as best it can. Although such a display may often change the relative position of major content units, sidebars may be displaced below **body text** rather than to the side of it. This is a more flexible display than a hard-coded grid-based layout that doesn't fit the device window. In particular, the relative position of content blocks may change while leaving the content within the block unaffected. This also minimizes the user's need to horizontally scroll the page.

Responsive web design is a newer approach, based on CSS3, and a deeper level of per-device specification within the page's style sheet through an enhanced use of the CSS **@media** rule. In March 2018 Google announced they would be rolling out mobile-first indexing.^[16] Sites using responsive design are well placed to ensure they meet this new approach.

Typography

[\[edit\]](#)

Main article: [typography](#)

Web designers may choose to limit the variety of website typefaces to only a few which are of a similar style, instead of using a wide range of [typefaces](#) or [type styles](#). Most browsers recognize a specific number of safe fonts, which designers mainly use in order to avoid complications.

Font downloading was later included in the CSS3 fonts module and has since been implemented in Safari 3.1, [Opera 10](#), and [Mozilla Firefox 3.5](#). This has subsequently increased interest in [web typography](#), as well as the usage of font downloading.

Most site layouts incorporate negative space to break the text up into paragraphs and also avoid center-aligned text.^{[\[17\]](#)}

Motion graphics

[\[edit\]](#)

The page layout and user interface may also be affected by the use of motion graphics. The choice of whether or not to use motion graphics may depend on the target market for the website. Motion graphics may be expected or at least better received with an entertainment-oriented website. However, a website target audience with a more serious or formal interest (such as business, community, or government) might find animations unnecessary and distracting if only for entertainment or decoration purposes. This doesn't mean that more serious content couldn't be enhanced with animated or video presentations that is relevant to the content. In either case, [motion graphic design](#) may make the difference between more effective visuals or distracting visuals.

Motion graphics that are not initiated by the site visitor can produce accessibility issues. The World Wide Web consortium accessibility standards require that site visitors be able to disable the animations.^{[\[18\]](#)}

Quality of code

[\[edit\]](#)

Website designers may consider it to be good practice to conform to standards. This is usually done via a description specifying what the element is doing. Failure to conform to standards may not make a website unusable or error-prone, but standards can relate to the correct layout of pages for readability as well as making sure coded elements are closed appropriately. This includes errors in code, a more organized layout for code, and making sure IDs and classes are identified properly. Poorly coded pages are sometimes colloquially called **tag soup**. **Validating via W3C[9]** can only be done when a correct DOCTYPE declaration is made, which is used to highlight errors in code. The system identifies the errors and areas that do not conform to web design standards. This information can then be corrected by the user.[19]

Generated content

[[edit](#)]

There are two ways websites are generated: statically or dynamically.

Static websites

[[edit](#)]

Main article: [Static web page](#)

A static website stores a unique file for every page of a static website. Each time that page is requested, the same content is returned. This content is created once, during the design of the website. It is usually manually authored, although some sites use an automated creation process, similar to a dynamic website, whose results are stored long-term as completed pages. These automatically created static sites became more popular around 2015, with generators such as **Jekyll** and **Adobe Muse**.[20]

The benefits of a static website are that they were simpler to host, as their server only needed to serve static content, not execute server-side scripts. This required less server administration and had less chance of exposing security holes. They could also serve pages more quickly, on low-cost server hardware. This advantage became less important as cheap web hosting expanded to also offer dynamic features, and **virtual servers** offered high performance for short intervals at low cost.

Almost all websites have some static content, as supporting assets such as images and style sheets are usually static, even on a website with highly dynamic pages.

Dynamic websites

[[edit](#)]

Main article: [Dynamic web page](#)

Dynamic websites are generated on the fly and use server-side technology to generate web pages. They typically extract their content from one or more back-end databases: some are database queries across a relational database to query a catalog or to summarise numeric information, and others may use a [document database](#) such as [MongoDB](#) or [NoSQL](#) to store larger units of content, such as blog posts or wiki articles.

In the design process, dynamic pages are often mocked-up or [wireframed](#) using static pages. The skillset needed to develop dynamic web pages is much broader than for a static page, involving server-side and database coding as well as client-side interface design. Even medium-sized dynamic projects are thus almost always a team effort.

When dynamic web pages first developed, they were typically coded directly in languages such as [Perl](#), [PHP](#) or [ASP](#). Some of these, notably PHP and ASP, used a 'template' approach where a server-side page resembled the structure of the completed client-side page, and data was inserted into places defined by 'tags'. This was a quicker means of development than coding in a purely procedural coding language such as Perl.

Both of these approaches have now been supplanted for many websites by higher-level application-focused tools such as [content management systems](#). These build on top of general-purpose coding platforms and assume that a website exists to offer content according to one of several well-recognised models, such as a time-sequenced [blog](#), a thematic magazine or news site, a wiki, or a user forum. These tools make the implementation of such a site very easy, and a purely organizational and design-based task, without requiring any coding.

Editing the content itself (as well as the template page) can be done both by means of the site itself and with the use of third-party software. The ability to edit all pages is provided only to a specific category of users (for example, administrators, or registered users). In some cases, anonymous users are allowed to edit certain web content, which is less frequent (for example, on forums - adding messages). An example of a site with an anonymous change is [Wikipedia](#).

Homepage design

[\[edit\]](#)

Usability experts, including [Jakob Nielsen](#) and Kyle Soucy, have often emphasised homepage design for website success and asserted that the homepage is the most important page on a website.^[21] *Nielsen, Jakob; Tahir, Marie (October 2001), [Homepage Usability: 50 Websites Deconstructed](#), New Riders Publishing, ISBN 978-0-7357-1102-0*^{[22][23]} However practitioners into the 2000s were starting to find that a growing number of website traffic was bypassing the homepage, going directly to internal content pages through search engines, e-newsletters and RSS feeds.^[24] This led many practitioners to argue that homepages are less important than most people think.^{[25][26][27][28]} Jared Spool argued in 2007 that a site's homepage was actually the least important page on a website.^[29]

In 2012 and 2013, carousels (also called 'sliders' and 'rotating banners') have become an extremely popular design element on homepages, often used to showcase featured or recent content in a confined space.[30] Many practitioners argue that carousels are an ineffective design element and hurt a website's search engine optimisation and usability.[30][31][32]

Occupations

[edit]

There are two primary jobs involved in creating a website: the web designer and **web developer**, who often work closely together on a website.[33] The web designers are responsible for the visual aspect, which includes the layout, colouring, and typography of a web page. Web designers will also have a working knowledge of **markup languages** such as HTML and CSS, although the extent of their knowledge will differ from one web designer to another. Particularly in smaller organizations, one person will need the necessary skills for designing and programming the full web page, while larger organizations may have a web designer responsible for the visual aspect alone.

Further jobs which may become involved in the creation of a website include:

- **Graphic designers** to create visuals for the site such as logos, layouts, and buttons
- Internet marketing specialists to help maintain web presence through strategic solutions on targeting viewers to the site, by using marketing and promotional techniques on the internet
- SEO writers to research and recommend the correct words to be incorporated into a particular website and make the website more accessible and found on numerous search engines
- Internet copywriter to create the written content of the page to appeal to the targeted viewers of the site[1]
- User experience **(UX) designer** incorporates aspects of user-focused design considerations which include information architecture, user-centred design, user testing, interaction design, and occasionally visual design.

Artificial intelligence and web design

[edit]

Chat GPT and other AI models are being used to write and code websites making it faster and easier to create websites. There are still discussions about the ethical implications on using artificial intelligence for design as the world becomes more familiar with using AI for time-consuming tasks used in design processes.[34]

See also

[edit]

icon
Image not found or type unknown

Internet portal

- Aesthetics
- Color theory
- Composition (visual arts)
- Cross-browser
- Design education
- Drawing
- Dark pattern
- European Design Awards
- First Things First 2000 manifesto
- Graphic art software
- Graphic design occupations
- Graphics
- Information graphics
- List of graphic design institutions
- List of notable graphic designers
- Logotype
- Outline of web design and web development
- Progressive Enhancement
- Style guide
- Web 2.0
- Web colors
- Web safe fonts
- Web usability
- Web application framework
- Website builder
- Website wireframe

Related disciplines

[[edit](#)]

- Communication design
- Copywriting
- Desktop publishing
- Digital illustration
- Graphic design
- Interaction design
- Information design
- Light-on-dark color scheme
- Marketing communications
- Motion graphic design
- New media
- Search engine optimization (SEO)
- Technical Writer
- Typography
- User experience
- User interface design
- Web development
- Web animations

Notes

[[edit](#)]

1. ^ <table>-based markup and [spacer](#) .GIF images

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External links

[edit]

- W3C consortium for web standards

Web design at Wikipedia's sister projects:

-  **Media** from Commons
-  **Resources** from Wikiversity

- United States
- France
- BnF data
- not found or type unknown
- this at Wikidata
- Japan
- Czech Republic
- Israel

Authority control databases: National

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

- e

Design

- Outline
- Designer

Disciplines

Communication design

- Advertising
- Book design
- Brand design
- Exhibit design
- Film title design
- Graphic design
 - Motion
 - Postage stamp design
 - Print design
- Illustration
- Information design
- Instructional design
- News design
- Photography
- Retail design
- Signage / Traffic sign design
- Typography / Type design
- Video design
- Visual merchandising

Environmental design

- Architecture
- Architectural lighting design
- Building design
 - Passive solar
- Ecological design
- Environmental impact design
- Garden design
 - Computer-aided
- Healthy community design
- Hotel design
- Interior architecture
- Interior design
 - EID
- Keyline design
- Landscape architecture
 - Sustainable
- Landscape design
- Spatial design
- Urban design

- Automotive design
- Automotive suspension design
- CMF design
- Corrugated box design
- Electric guitar design

Approaches

- Active
- Activity-centered
- Adaptive web
- Affective
- Brainstorming
- By committee
- By contract
- C-K theory
- Closure
- Co-design
- Concept-oriented
- Configuration
- Contextual
- Continuous
- Cradle-to-cradle
- Creative problem-solving
- Creativity techniques
- Critical
 - Design fiction
- Defensive
- Design–bid–build
- Design–build
 - architect-led
- Diffuse
- Domain-driven
- Ecological design
- Energy neutral
- Engineering design process
 - Probabilistic design
- Ergonomic
- Error-tolerant
- Evidence-based
- Fault-tolerant
- Framework-oriented
- For assembly
- For behaviour change
- For manufacturability
- For Six Sigma
- For testing
- For the environment
- For X
- Functional
- Generative
- Geodesign
- HCD
- High-level
- Hostile

- **Tools**
- **Intellectual property**
 - **Organizations**
 - **Awards**

Tools

- AAD
- Architectural model
- Blueprint
- Comprehensive layout
- CAD
 - CAID
 - Virtual home design software
- CAutoD
- Design quality indicator
- Electronic design automation
- Flowchart
- Mockup
- Design specification
- Prototype
- Sketch
- Storyboard
- Technical drawing
- HTML editor
- Website wireframe

Intellectual property

- Clean-room design
- Community design
- Design around
- Design infringement
- Design patent
- Fashion design copyright
- *Geschmacksmuster*
- Industrial design rights
 - European Union

Organizations

- American Institute of Graphic Arts
- Chartered Society of Designers
- Design and Industries Association
- Design Council
- International Forum Design
- Design Research Society
- European Design Award
- German Design Award

Related topics

- Agile
- Concept art
- Conceptual design
- Creative industries
- Cultural icon
- .design
- Dominant design
- Enterprise architecture
- Form factor
- Futures studies
- Indie design
- Innovation management
- Intelligent design
- Lean startup
- New product development
- OODA loop
- Philosophy of design
- Process simulation
- Reference design
- Slow design
- STEAM fields
- Unintelligent design
- Visualization
- Wicked problem
- Design attributes
 - brief
 - change
 - classic
 - competition
 - architectural
 - student
 - director
 - education
 - elements
 - engineer
 - firm
 - history
 - knowledge
 - language
 - life
 - load
 - museum
 - optimization
 - paradigm
 - principles
 - rationale

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Frequently Asked Questions

What is a content agency in Sydney?

A content agency in Sydney focuses on creating high-quality, SEO-optimized content that resonates with your target audience. Their services typically include blog writing, website copy, video production, and other forms of media designed to attract traffic and improve search rankings.

Why should I consider SEO packages in Australia?

SEO packages in Australia typically bundle essential optimization services such as keyword research, technical audits, content creation, and link building at a set price. They are designed to simplify the process, provide consistent results, and help businesses of all sizes improve their online visibility.

What is involved in SEO consulting?

SEO consulting involves analyzing a website's current performance, identifying areas for improvement, and recommending strategies to boost search rankings. Consultants provide insights on keyword selection, on-page and technical optimization, content development, and link-building tactics.

What are the benefits of working with an SEO consultant in Sydney?

An SEO consultant in Sydney can provide tailored advice and strategies that align with your business's goals and local market conditions. They bring expertise in keyword selection, content optimization, technical SEO, and performance monitoring, helping you achieve better search rankings and more organic traffic.

What role do SEO consultants play in a digital marketing strategy?

SEO consultants are responsible for improving your website's visibility and performance in search engines. By analyzing data, refining keyword strategies, and optimizing site elements, they enhance your overall digital marketing efforts, leading to more traffic, better user engagement, and higher conversions.

What are local SEO services in Sydney?

Local SEO services in Sydney focus on optimizing a business's online presence to attract local customers. This includes claiming local business listings, optimizing Google My Business profiles, using location-specific keywords, and ensuring consistent NAP (Name, Address, Phone) information across the web.

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