

Emoji

Emojis (Japanese: 絵文字, English: /ɪ'moʊdʒi/; Japanese: [emodži]; singular *emoji*, plural *emoji* or *emojis*^[4]) are ideograms and smileys used in electronic messages and web pages. Emoji exist in various genres, including facial expressions, common objects, places and types of weather, and animals. They are much like emoticons, but emoji are actual pictures instead of typographics.^[5] Originally meaning pictograph, the word *emoji* comes from Japanese *e* (絵, "picture") + *moji* (文字, "character"); the resemblance to the English words *emotion* and *emoticon* is purely coincidental.^[6] The ISO 15924 script code for emoji is Zsye.

Originating on Japanese mobile phones in 1997, emoji became increasingly popular worldwide in the 2010s after being added to several mobile operating systems.^{[7][8][9]} They are now considered to be a large part of popular culture in the west.^[10] In 2015, Oxford Dictionaries named the Face with Tears of Joy emoji the Word of the Year.^[11]



An emoji, created by the Noto project

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History

The development of emoji was predicated by text-based emoticons,^[12] as well as graphical representations, inside and outside of Japan.^{[13][14]}

The earliest known mobile phone in Japan to include a set of emoji was released by J-Phone on November 1, 1997. The set of 90 emoji included many that would later be added to the Unicode Standard, such as Pile of Poo, but as the phone was very expensive they were not widely used at the time.^[15]

Emoji	
Symbol sets	Emoji
Assigned	1,273 code points
Unicode version history	
1.0.0	79 (+79)
3.0	81 (+2)
3.2	89 (+8)
4.0	97 (+8)
4.1	113 (+16)
5.1	117 (+4)
5.2	144 (+27)
6.0	860 (+716)
6.1	873 (+13)
7.0	977 (+104)
8.0	1,018 (+41)
9.0	1,090 (+72)
10.0	1,146 (+56)
11.0	1,212 (+66)
12.0	1,273 (+61)
Note: These counts are for emoji that are single Unicode characters; ^[1] ^[2] many more emoji are composed of sequences of two or more characters. ^[3] Emoji were first defined in Unicode 6.0, and pre-6.0 characters were only defined as emoji in 6.0 or later.	

In 1999 [Shigetaka Kurita](#) created the first widely-used set of emoji.^{[16][17]} He was part of the team working on [NTT DoCoMo's i-mode mobile Internet platform](#).^[18] Kurita took inspiration from weather forecasts that used symbols to show weather, [Chinese characters](#) and street signs, and from [manga](#) that used stock symbols to express emotions, such as lightbulbs signifying inspiration.^{[19][20][18]}

Emoji were initially used (see [Japanese mobile phone culture](#)) by the [Japanese mobile operators](#) NTT DoCoMo, [au](#), and [SoftBank Mobile](#) (formerly [Vodafone](#)). These companies each defined their own variants of emoji using proprietary standards.

The first set of 176 12×12 pixel emoji was created as part of i-mode's messaging features to help facilitate electronic communication, and to serve as a distinguishing feature from other services.^[7]

Kurita created the first 180 emoji based on the expressions that he observed people making and other things in the city.^[20]



Color emoji from Google's Noto Emoji Project used by Gmail, Google Hangouts, Chrome OS and Android

For NTT DoCoMo's i-mode, each emoji is drawn on a 12×12 pixel grid. When transmitted, emoji symbols are specified as a two-byte sequence, in the private-use range E63E through E757 in the [Unicode](#) character space, or F89F through F9FC for [Shift JIS](#). The basic specification has 1706 symbols, with 76 more added in phones that support [C-HTML 4.0](#).

Emoji pictograms by Japanese mobile phone brand [Au](#) are specified using the [IMG](#) tag. SoftBank Mobile emoji are wrapped between [SI/SO escape sequences](#), and support colors and animation. DoCoMo's emoji are the most compact to transmit while Au's version is more flexible and based on open standards.

From 2010 onwards, some emoji character sets have been incorporated into [Unicode](#), a standard system for indexing characters, which has allowed them to be used outside Japan and to be standardized across different operating systems.

Hundreds of emoji characters were encoded in the [Unicode Standard](#) in version 6.0 released in October 2010 (and in the related international standard [ISO/IEC 10646](#)). The additions, originally requested by [Google](#) (Kat Momoi, [Mark Davis](#), and Markus Scherer wrote the first draft for consideration by the Unicode Technical Committee in August 2007) and [Apple Inc.](#) (whose Yasuo Kida and Peter Edberg joined the first official UTC proposal for 607 characters as coauthors in January 2009), went through a long series of commenting by members of the [Unicode Consortium](#) and national standardization bodies of various countries participating in ISO/IEC JTC1/SC2/WG2, especially the United States, Germany, Ireland (led by [Michael Everson](#)), and Japan; various new characters (especially symbols for maps and European signs) were added during the consensus-building process. Encoding in the Unicode standard has allowed emoji to become popular outside Japan. The core emoji set in Unicode 6.0 consisted of 722 characters, of which 114 characters map to sequences of one or more characters in the pre-6.0 Unicode standard, and the remaining 608 characters map to sequences of one or more characters introduced in Unicode 6.0.^[21] There is no block specifically set aside for emoji – the new symbols were encoded in seven different blocks (some newly created), and there exists a Unicode data file called [EmojiSources.txt](#) that includes mappings to and from the Japanese vendors' legacy character sets. "[Regional Indicator Symbols](#)" were defined as part of this set of characters as an alternative to encoding separate characters for national flags.

The popularity of emoji has caused pressure from vendors and international markets to add additional designs into the Unicode standard to meet the demands of different cultures. Unicode 7.0 added approximately 250 emoji, many from the [Webdings](#) and [Wingdings](#) fonts.^[22] Some characters now defined as emoji are inherited from a variety of pre-Unicode messenger systems not only used in Japan, including [Yahoo](#) and [MSN Messenger](#).^[23] Unicode 8.0 added another 41 emoji, including articles of sports equipment such as the cricket bat, food items such as the [taco](#), signs of the [Zodiac](#), new facial expressions, and symbols for places of worship.^[24] Corporate demand for emoji standardisation has placed pressures on the Unicode Consortium, with some members complaining that it had overtaken the group's traditional focus on standardising characters used for minority languages and transcribing historical records.^[25]

Emoji characters vary slightly between platforms within the limits in meaning defined by the Unicode specification, as companies have tried to provide artistic presentations of ideas and objects.^[26] For example, following an Apple tradition, the calendar emoji on Apple products always shows July 17, the date in 2002 Apple announced its [iCal](#) calendar application for [macOS](#). This led some Apple product users to initially nickname July 17 "[World Emoji Day](#)".^[27] Other emoji fonts show different dates or do not show a specific one.^[28]

Some Apple emoji are very similar to the SoftBank standard, since SoftBank was the first Japanese network the iPhone launched on. For example, U+1F483 ☺ DANCER is female on Apple and SoftBank standards but male or gender-neutral on others.^[29]

Journalists have noted that the ambiguity of emoji has allowed them to take on culture-specific meanings not present in the original glyphs. For example, U+1F485 ☺ NAIL POLISH has been described as being used in English-language communities to signify "non-caring fabulousness" and "anything from shutting haters down to a sense of accomplishment".^{[30][31][32]} Unicode manuals sometimes provide notes on auxiliary meanings of an object to guide designers on how emoji may be used, for example noting that some users may expect U+1F4BA ☻ SEAT to stand for "a reserved or ticketed seat, as for an airplane, train, or theater".^[33]

As of July 2017 there were 2,666 emoji on the official Unicode Standard list.^[34]

Cultural influence



Color illustrations of U+1F602 ☺ FACE WITH TEARS OF JOY from Twitter, Noto Emoji Project and Firefox OS

Oxford Dictionaries named U+1F602 ☺ FACE WITH TEARS OF JOY^[35] its 2015 [Word of the Year](#).^[36] Oxford noted that 2015 had seen a sizable increase in the use of the word "emoji" and recognized its impact on popular culture.^[36] Oxford Dictionaries President Caspar Grathwohl expressed that "traditional alphabet scripts have been struggling to meet the rapid-fire, visually focused demands of 21st Century communication.

It's not surprising that a pictographic script like emoji has stepped in to fill those gaps—it's flexible, immediate, and infuses tone beautifully.^[37] SwiftKey found that "Face with Tears of Joy" was the most popular emoji across the world.^[38] The American Dialect Society declared U+1F346 🍆 AUBERGINE to be the "Most Notable Emoji" of 2015 in their Word of the Year vote.^[39]

Some emoji are specific to Japanese culture, such as a bowing businessman (U+1F647 🙏), the shoshinsha mark used to indicate a beginner driver (U+1F530 🚗), a white flower (U+1F4AE 🌸) used to denote "brilliant homework",^[40] or a group of emoji representing popular foods: ramen noodles (U+1F35C 🍲), dango (U+1F361 🍠), onigiri (U+1F359 🍳), Japanese curry (U+1F35B 🍲), and sushi (U+1F363 🍣). Unicode Consortium founder Mark Davis compared the use of emoji to a developing language, particularly mentioning the American use of eggplant (U+1F346 🍆) to represent a phallus.^[41] Some linguists have classified emoji and emoticons as discourse markers.^[42]

In December 2015 a sentiment analysis of emoji was published,^[43] and the Emoji Sentiment Ranking 1.0^[44] was provided. In 2016, a musical about emoji premiered in Los Angeles.^{[45][46]} The computer animated The Emoji Movie was released in summer 2017.^{[47][48]}

In January 2017, in what is believed to be the first large-scale study of emoji usage, researchers at the University of Michigan analysed over 1.2 billion messages input via the Kika Emoji Keyboard^[49] and announced that the Face With Tears of Joy was the most popular emoji. The Heart and the Heart eyes emoji stood second and third respectively. The study also found that the French heart emoji the most.^[50] People in countries like Australia, France and the Czech Republic used more happy emoji, while this was not so for people in Mexico, Colombia, Chile and Argentina, where people used more negative emoji in comparison to cultural hubs known for restraint and self-discipline, like Turkey, France and Russia.^[51]

There has been discussion among legal experts on whether or not emoji could be admissible as evidence in court trials.^{[52][53]} Furthermore, as emoji continue to develop and grow as a "language" of symbols, there may also be the potential of the formation of emoji "dialects".^[54] Emoji are being used as more than just to show reactions and emotions.^[55] Snapchat have even incorporated emoji in their trophy and friends system with each emoji showing a complex meaning.^[56]

Emojis that further modern causes

In the second part of 2019, a period emoji will be released that is expected to break the stigma of menstruation.^[57] In addition to normalizing periods, it will also be relevant to describe medical topics such as donating blood and other blood-related activities.^[57]

A mosquito emoji was added in 2018 to raise awareness for diseases spread by the insect, such as dengue and malaria.^[58]

Emoji communications problems

Research has shown that emoji are often misunderstood. In some cases, this misunderstanding is related to how the actual emoji design is interpreted by the viewer;^[59] in other cases, the emoji that was sent is not shown in the same way on the receiving side.^[60]

The first issue relates to the cultural or contextual interpretation of the emoji. When the author picks an emoji, they think about it in a certain way, but the same character may not trigger the same thoughts in the mind of the receiver.^[61] (See also Models of communication.)

For example, people in China have developed a system for using emoji subversively, so that a smiley face could be sent to convey a despising, mocking, and even obnoxious attitude, as the orbicularis oculi (the muscle near that upper eye corner) on the face of the emoji does not move, and the orbicularis oris (the one near the mouth) tightens, which is believed to be a sign of suppressing a smile.^[62]

The second problem relates to technology and branding. When an author of a message picks an emoji from a list, it is normally encoded in a non-graphical manner during the transmission, and if the author and the reader do not use the same software or operating system for their devices, the reader's device may visualize the same emoji in a different way. Small changes to a character's look may completely alter its perceived meaning with the receiver.

Controversial emoji

Some emoji have been involved in controversy due to their perceived meanings. Multiple arrests and imprisonments have followed usage of gun (U+1F52B 🌡), knife (U+1F5E1 🌡), and bomb (U+1F4A3 💣) emoji in ways that were deemed by authorities to constitute credible threats.^[63]

In the lead-up to the 2016 Summer Olympics, the Unicode Consortium considered proposals to add several Olympic-related emoji, including medals and events such as handball and water polo.^[64] By October 2015, these candidate emoji included "rifle" (U+1F946 🏹) and "modern pentathlon" (U+1F93B 🏹).^{[65][66]} However, in 2016, Apple and Microsoft opposed these two emoji, and the characters were added without emoji

presentations, meaning that software is expected to render them in black-and-white rather than color, and emoji-specific software such as onscreen keyboards will generally not include them. In addition, while the original incarnations of the modern pentathlon emoji depicted its five events, including a man pointing a gun, the final glyph contains a person riding a horse, along with a laser pistol target in the corner.^{[63][66][67]}

On August 1, 2016, Apple announced that in iOS 10, the gun emoji (U+1F52B ⚡) would be changed from a realistic revolver to a water pistol.^[63] Conversely, the following day, Microsoft pushed out an update to Windows 10 that changed its longstanding depiction of the gun emoji as a toy ray-gun to a real revolver.^[68] Microsoft stated that the change was made to bring the glyph more in line with industry-standard designs and customer expectations.^[68] By 2018, most major platforms such as Google, Microsoft, Samsung, Facebook, and Twitter had transitioned their rendering of the pistol emoji to match Apple's water gun implementation.^[69]

The eggplant (British English: aubergine) emoji (U+1F346 🍆) has also seen controversy due to its being used, almost solely in the United States, to represent a penis.^{[39][41][70][71]} Beginning in December 2014, the hashtag #EggplantFridays began to rise to popularity on Instagram for use in marking photos featuring clothed or unclothed penises.^{[70][71]} This became such a popular trend that beginning in April 2015, Instagram disabled the ability to search for not only the #EggplantFridays tag, but also other eggplant-containing hashtags, including simply #eggplant and #🍆.^{[70][71][72]}

The peach emoji (U+1F351 🍑) has likewise been used as a euphemistic icon for buttocks, with a 2016 Emojipedia analysis revealing that only 7% of English language tweets with the peach emoji refer to the actual fruit.^{[73][74][75]} In 2016, Apple attempted to redesign the emoji to less resemble a butt. This was met with fierce backlash in beta testing and Apple reversed its decision by the time it went live to the public.^[76]

In December 2017 a lawyer in Delhi, India threatened to file suit against WhatsApp for allowing use of the middle finger emoji (U+1F595 🔞) on the basis that the company is "directly abetting the use of an offensive, lewd, obscene gesture" in violation of the Indian Penal Code.^[77]

Emoji versus text presentation

Unicode defines variation sequences for many of its emoji to indicate their desired presentation.

Emoji characters can have two main kinds of presentation:

- an *emoji presentation*, with colorful and perhaps whimsical shapes, even animated
- a *text presentation*, such as black & white
 - Unicode Technical Report #51: Unicode Emoji^[78]

Specifying the desired presentation is done by following the base emoji with either U+FE0E VARIATION SELECTOR-15 (VS15) for text or U+FE0F VARIATION SELECTOR-16 (VS16) for emoji-style.^[79]

Sample emoji variation sequences

U+	2139	231B	26A0	2712	2764	1F004	1F21A
default presentation	text	emoji	text	text	text	emoji	emoji
base code point	í	☒	⚠	✒	♥	㊥	無
base+VS15 (text)	í	☒	⚠	✒	♥	㊥	無
base+VS16 (emoji)	í	☒	⚠	✒	♥	㊥	無
Twemoji image	ℹ	🕒	⚠	✒	❤	㊥	無

Skin color

Five symbol modifier characters were added with Unicode 8.0 to provide a range of skin tones for human emoji. These modifiers are called EMOJI MODIFIER FITZPATRICK TYPE-1-2, -3, -4, -5, and -6 (U+1F3FB–U+1F3FF): They are based on the [Fitzpatrick scale](#) for classifying human skin color. Human emoji that are not followed by one of these five modifiers should be displayed in a generic, non-realistic skin tone, such as bright yellow (), blue (), or gray ().^[78] Non-human emoji (like U+26FD FUEL PUMP) are unaffected by the Fitzpatrick modifiers. As of Unicode 12.0, Fitzpatrick modifiers can be used with 114 human emoji spread across six blocks: [Dingbats](#), [Emoticons](#), [Miscellaneous Symbols](#), [Miscellaneous Symbols and Pictographs](#), [Supplemental Symbols and Pictographs](#), and [Transport and Map Symbols](#).^[1]

The following table shows both the Unicode characters and the open-source "Twemoji" images, designed by [Twitter](#):

		Sample use of Fitzpatrick modifiers					
Code point		Default	FITZ-1-2	FITZ-3	FITZ-4	FITZ-5	FITZ-6
U+1F9D2: Child	Text						
	Image						
U+1F466: Boy	Text						
	Image						
U+1F467: Girl	Text						
	Image						
U+1F9D1: Adult	Text						
	Image						
U+1F468: Man	Text						
	Image						
U+1F469: Woman	Text						
	Image						

Joining

Implementations may use U+200D ZERO WIDTH JOINER (ZWJ) between emoji to make them behave like a single, unique emoji character.^[78] (Systems that don't support this should ignore the ZWJ character.)

For example, the sequence U+1F468 MAN, U+200D ZWJ, U+1F469 WOMAN, U+200D ZWJ, U+1F467 GIRL () could be displayed as a single emoji depicting a family with a man, a woman, and a girl if the implementation supports it. Systems that don't support it would ignore the ZWJs, showing the base emoji in the sequence: U+1F468 MAN, U+1F469 WOMAN, U+1F467 GIRL ()

Unicode previously maintained a catalog of emoji ZWJ sequences that are supported on at least one commonly available platform. The consortium has since switched to only document sequences that are *recommended for general interchange* (RGI).^[3]

Unicode blocks

Unicode 12.0 represents emoji using 1,311 characters spread across 24 blocks, of which 26 are [Regional Indicator Symbols](#) that combine in pairs to form flag emoji, and 12 (#, * and 0–9) are base characters for [keycap](#) emoji sequences.^{[1][78]}

637 of the 768 code points in the [Miscellaneous Symbols and Pictographs](#) block are considered emoji. 230 of the 244 code points in the [Supplemental Symbols and Pictographs](#) block are considered emoji. All of the 16 code points in the [Symbols and Pictographs Extended-A](#) block are considered emoji. All of the 80 code points in the [Emoticons](#) block are considered emoji. 97 of the 110 code points in the [Transport and Map Symbols](#) block are considered emoji. 82 of the 256 code points in the [Miscellaneous Symbols](#) block are considered emoji. 33 of the 192 code points in the [Dingbats](#) block are considered emoji.

List of emoji^{[1][2][3][4]}

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+00Ax										⌚					℗	
U+203x														❗		
U+204x										⁉						
U+212x			™													
U+213x										ℹ						
U+219x				↔	↕	↖	↗	↘	↙							
U+21Ax										↔	↔					
U+231x										⌚	🕒					
U+232x							⌨									
U+23Cx														💻		
U+23Ex										▶	◀	▲	▼	▶️	◀️	▶️
U+23Fx	⌚	⌚	⌚	🕒						⏸	■	●				
U+24Cx		Ⓜ														
U+25Ax										▪	▫	▫				
U+25Bx					▶											
U+25Cx	◀															
U+25Fx										□	■	□	■			
U+260x	☀	☁	☂	☃	☄									☎		
U+261x	☑			☔	☕					♣				📠		
U+262x	☠		☢	☣		✝					🌙	🌙	😊	☮	Ѡ	
U+263x										✿	☹	☺				
U+264x	♀		♂							♈	♉	♊	♋	♌	♍	♏
U+265x	♐	♑	♒	♓											👳	
U+266x	♠			♣		♥	♦			🔥						
U+267x												♻		♾	♿	
U+269x			⚒	⚓	✖	✖	✖	✖	✖				⚛	⚜		
U+26Ax	⚠	⚡									○	●				
U+26Bx	◻	◊												⚽	ⓧ	

U+26Cx																
U+26Dx																
U+26Ex																
U+26Fx																
U+270x																
U+271x																
U+272x																
U+273x																
U+274x																
U+275x																
U+276x																
U+279x																
U+27Ax																
U+27Bx																
U+293x																
U+2B0x																
U+2B1x																
U+2B5x																
U+303x																
U+329x																
U+1F00x																
U+1F0Cx																
U+1F17x																
U+1F18x																
U+1F19x																
U+1F20x																
U+1F21x																
U+1F22x																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

U+1F6Bx	□	□	□	□	□	□	□	□	□	▮	▮	▮	▮	▮	WC	□
U+1F6Cx	□	□	□	□	□	□									□	□
U+1F6Dx	□	□	□			□										
U+1F6Ex	□	□	□	□	□	□			□						□	□
U+1F6Fx	□			□	□	□	□	□	□	□	□	□	□	□		
U+1F7Ex	□	□	□	□	□	□	□	□	□	□	□	□	□	□		
U+1F90x															□	□
U+1F91x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F92x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F93x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F94x	□	□	□	□	□	□		□	□	□	□	□	□	□	□	□
U+1F95x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F96x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F97x	□	□		□	□	□	□			□	□	□	□	□	□	□
U+1F98x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F99x	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F9Ax	□	□	□			□	□	□	□	□	□				□	□
U+1F9Bx	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F9Cx	□	□	□	□	□	□	□	□	□	□	□	□			□	□
U+1F9Dx	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F9Ex	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1F9Fx	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
U+1FA7x	□	□	□	□				□	□	□						
U+1FA8x	□	□	□													
U+1FA9x	□	□	□	□	□	□										
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

Notes

- 1.[▲] As of Unicode version 12.0
- 2.[▲] Grey areas indicate non-emoji or non-assigned code points
- 3.[▲] "UTR #51: Unicode Emoji" (<https://unicode.org/reports/tr51/>). Unicode Consortium.
- 4.[▲] "UCD: Emoji Data for UTR #51" (<https://unicode.org/Public/emoji/latest/emoji-data.txt>). Unicode Consortium. January 15, 2019.

Additional emoji can be found in the following Unicode blocks: [Arrows](#) (8 code points considered emoji), [Basic Latin](#) (12), [CJK Symbols and Punctuation](#) (2), [Enclosed Alphanumeric Supplement](#) (41), [Enclosed Alphanumerics](#) (1), [Enclosed CJK Letters and Months](#) (2), [Enclosed Ideographic Supplement](#) (15), [General Punctuation](#) (2), [Geometric Shapes](#) (8), [Geometric Shapes Extended](#) (12), [Latin-1 Supplement](#) (2), [Letterlike Symbols](#) (2), [Mahjong Tiles](#) (1), [Miscellaneous Symbols and Arrows](#) (7), [Miscellaneous Technical](#) (18), [Playing Cards](#) (1), and [Supplemental Arrows-B](#) (2).

Additions

Some vendors, most notably Microsoft, Samsung and HTC, add emoji presentation to some other existing Unicode characters or coin their own ZWJ sequences.

Microsoft displays all [Mahjong tiles](#) (U+1F000..2B, not just U+1F004 ♡ MAHJONG TILE RED DRAGON) and alternative card suits (U+2661 ♥, U+2662 ♦, U+2664 ♣, U+2666 ♠) as emoji. They also support additional pencils (U+270E ✎, U+2710 ✏) and a heart-shaped bullet (U+2765 ♦).

While only U+261D ✎ is officially an emoji, Microsoft and Samsung add the other three directions as well (U+261C ✏, U+261E ✏, U+261F ✏). Both vendors pair the standard checked ballot box emoji U+2611 ☑ with its crossed variant U+2612 ☒, but only Samsung also has the empty ballot box U+2610 ☐.

Samsung almost completely covers the rest of the [Miscellaneous Symbols](#) block (U+2600..FF) as emoji, which includes Chess pieces, game die faces, some traffic sign as well as genealogical and astronomical symbols for instance.

HTC supports most additional pictographs from the [Miscellaneous Symbols and Pictographs](#) (U+1F300..5FF) and [Transport and Map Symbols](#) (U+1F680..FF) blocks. Some of them are also shown as emoji on Samsung devices.

The open source projects Emojidex and Emojitwo are trying to cover all of these extensions established by major vendors.

Implementation

The exact appearance of emoji is not prescribed but varies between fonts, in the same way that normal typefaces can display letters differently. For example, the [Apple Color Emoji](#) typeface is proprietary to Apple, and can only be used on Apple devices (without additional [hacking](#)).^[80] Different computing companies have developed their own fonts to display emoji, some of which have been [open-sourced](#) to permit their reuse.^{[81][82]} Both colour and monochrome emoji typefaces exist, as well as at least one animated design.^[83]

Android

[Android](#) devices support emoji differently depending on the operating system version. Google added native emoji support to Android in July 2013 with Android 4.3,^[84] and to the Google Keyboard in November 2013 for devices running Android 4.4 and later.^[85] Android 7.0 Nougat added Unicode 9 emoji, skin tone modifiers, and a redesign of many existing emoji.^[86]

Emoji are also supported by the [Google Hangouts](#) application (independent of the keyboard in use), in both Hangouts and [SMS](#) modes.^[87] Several third-party messaging and keyboard applications (such as IQQI Keyboard) for Android devices^[88] provide plugins that allow the use of emoji. Some apps, e.g. [WhatsApp](#), come with Apple emoji for internal use. With Android 8 (Oreo), Google added a compatibility library that, if included by app developers, makes the latest Noto emoji available on any platform since Android 4.3.^[89]

Until 2016, mobile phone vendors HTC and LG deployed variants of NotoColorEmoji.ttf with custom glyphs; Samsung still does. Some Japanese mobile carriers used to equip branded Android devices with emoji glyphs that were closer to the original ones, but apparently have stopped updating these circa 2015.

Apple

Apple first introduced emoji to their desktop operating system with the release of [OS X 10.7 Lion](#), in 2011. Users can view emoji characters sent through email and messaging applications, which are commonly shared by mobile users, as well as any other application. Users can create emoji symbols using the "Characters" special input panel from almost any native application by selecting the "Edit" menu and pulling down to "Special Characters", or by the key combination [**⌘ Command**](#) + [**⌥ Option**](#) + [**T**](#). The desktop OS uses the [Apple Color Emoji](#) font that was introduced earlier in [iOS](#). This provides users with full color pictographs.^[90]

The emoji keyboard was first available in Japan with the release of [iPhone OS version 2.2](#) in 2008.^[91] The emoji keyboard was not officially made available outside of Japan until [iOS version 5.0](#).^[92] From iPhone OS 2.2 through to iOS 4.3.5 (2011), those outside Japan could access the keyboard but had to use a third party app to enable it. The first of such apps was developed by [Josh Gare](#); emoji beginning to be embraced by popular culture outside Japan has been attributed to these apps.^{[93][94]} iOS was updated to support [Fitzpatrick skin-tone modifiers](#) with version 8.3.^[95]

OS X 10.9 Mavericks introduced a dedicated emoji input palette in most text input boxes using the key combination [⌘ Command + ⌘ Control + Space](#).^[96]

On September 12, 2017, Apple announced that the [Messages](#) app on the [iPhone X](#) would get "Animoji", which are versions of standard emoji that are custom-animated with the use of [facial motion capture](#) to reflect the sender's expressions. These Animoji can also utilize [lip sync](#) to appear to speak audio messages recorded by the sender. Apple had created 3D models of all standard emoji prior to its late-2016 OS updates from which the static default 2D graphics had been rendered. A select set of these models are being reused for creating still images and short animations dynamically.

Apple has revealed that the "face with tears of joy" is the most popular emoji among English speaking Americans. On second place is the "heart" emoji followed by the "Loudly Crying Face".^{[97][98]}

On July 17, 2018, for the [World Emoji Day](#), Apple announced that it will be adding 70 more emoji in its 2018 [iOS](#) update, including the long-awaited, red hair, white hair, curly hair and bald emoji.^{[99][100]}

Chrome OS

Chrome OS, through its inclusion of the [Noto fonts](#), supports the emoji set introduced through Unicode 6.2. As of Chrome OS 41, Noto Color Emoji is the default font for most emoji.

Linux

[Ubuntu 18.04](#) and [Fedora 28](#) support color emoji by default, using [Noto Color Emoji](#).^{[101][102]} Some [Linux distributions](#) require the installation of extra fonts.^[103] Color emoji are supported by [FreeType](#) and [Cairo](#).^{[104][105]}

Microsoft Windows

An update for the Segoe UI Symbol font in [Windows 7](#) and in Windows Server 2008 R2 brought a subset of the monochrome Unicode set to those operating systems.^[106] The font update rebranded the font as [Segoe UI Symbol](#). The difference between the two fonts is that Segoe UI lacks any and all emoji characters, while Segoe UI Symbol and Segoe UI Emoji include them. [Windows 8](#) and higher supports the full Unicode emoji characters through Microsoft's [Segoe UI](#) family of fonts. Emoji characters are accessed through the onscreen keyboard's "smiley" key. As of [Windows 8.1 Preview](#), Segoe UI Emoji font supplies full-color pictographs. Differently from macOS and iOS, color glyphs are only supplied when the application supports Microsoft's [DirectWrite API](#), and Segoe UI Emoji is explicitly declared, otherwise monochrome glyphs appear.^[107] Segoe UI Emoji and its full-color emoji set is not fully supported by all programs written for Windows; for example, among Web browsers, [Internet Explorer](#) and [Google Chrome](#) can use the font, but [Firefox](#) initially did not (that browser now supports full color emoji and includes the EmojiOne set in installation). [Windows 10 Anniversary Update](#) added Unicode 9 emoji.^[108]

Internationalized domain names

A limited number of [top-level domains](#) allow registration of domain names containing emoji characters. Emoji-containing subdomains are also possible under any top-level domain.

Social media

[Facebook](#) and [Twitter](#) replace all Unicode emoji used on their websites with their own custom graphics.

Facebook has different sets for the main site and for its Messenger service, where only the former provides complete coverage. [Facebook reactions](#) are only partially compatible with standard emoji.

Twitter has released [Twemoji](#), which is their emoji graphics together with a Javascript library to handle them, under the [Creative Commons CC-BY 4.0 license](#) and the [MIT open-source license](#), respectively.^[109] The Android and iOS Twitter apps use emoji native to the platform they are running on.

General

Any operating system that supports adding additional fonts to the system can add an emoji-supporting font.

[EmojiOne](#) version 2.3, an open-source font available under free license, supports the full emoji set in color through Unicode Emoji 3.0, i.e. Unicode 9.0. [EmojiOne](#) version 3.1, with a stricter license that disallows the redistribution of vector images, supports Unicode Emoji 5.0, hence characters added in Unicode 10.0. [EmojiTwo](#), an open-source fork of [EmojiOne](#) 2.3, aims to add all emoji from 2017 and later.

Note, however, that not all operating systems have support for color fonts, so in these cases emoji might have to be rendered as black-and-white line art or not at all. [OpenType](#) version 1.8 standardizes four different formats for color fonts: one built upon standard glyphs and backed by Microsoft; one built upon [SVG](#) and backed by Mozilla, Adobe, and others; one based upon [PNG](#) chunks and backed by Google; and one supporting a variety of embedded image formats, but preferably PNG, backed by Apple. This means that color fonts need to come in several formats to be usable on multiple operating systems.

The font [Symbola](#) contains all emoji through version 10.0 as normal monochrome glyphs. Through version 10, [Symbola](#) was a [public domain font](#); beginning with version 11 in 2018, [Symbola](#) has been copyrighted with a ban on commercial use and derivative works. Other typefaces including a significant number of emoji characters include [Noto Emoji](#), [Adobe Source Emoji](#), and [Quivira](#).

In popular culture

- The 2009 film [Moon](#) featured a robot named GERTY who communicates using a neutral-toned synthesized voice together with a screen showing emoji representing the corresponding emotional content.^[110]
- In 2014, the [Library of Congress](#) acquired an emoji version of [Herman Melville's Moby Dick](#) created by Fred Benenson.^{[111][112]}
- A musical called [Emojiland](#) premiered at Rockwell Table & Stage in Los Angeles in May 2016,^{[45][46]} after selected songs were presented at the same venue in 2015.^{[113][114]}
- In October 2016, the [Museum of Modern Art](#) acquired the original collection of emoji distributed by NTT Docomo in 1999.^[115]
- In November 2016, the first emoji-themed convention, Emojicon, was held in San Francisco.^[116]
- In March 2017, the first episode of [the fifth season of Samurai Jack](#) featured alien characters who communicate in emoji.^[117]
- In April 2017, the [Doctor Who](#) episode "[Smile](#)" featured nanobots called Vardy, which communicate through robotic avatars that use emoji (without any accompanying speech output) and are sometimes referred to by the time travelers as "Emojibots".^[118]
- On July 28, 2017, Sony Pictures Animation released [The Emoji Movie](#), a 3D computer animated movie featuring the voices of Patrick Stewart, Christina Aguilera, Sofía Vergara, Anna Faris, T. J. Miller, and other notable actors and comedians.^[119]

See also

- [Emojipedia](#)
- [iConji](#)
- [Kaomoji](#)
- [Emojli](#)
- [Hieroglyphics](#)

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External links

- [Unicode Technical Report #51: Unicode emoji](https://www.unicode.org/reports/tr51/) (<https://www.unicode.org/reports/tr51/>)
- [The Unicode FAQ – Emoji & Dingbats](https://www.unicode.org/faq/emoji_dingbats.html) (https://www.unicode.org/faq/emoji_dingbats.html)
- [Emoji Symbols](http://sites.google.com/site/unicodesymbols/Home/emoji-symbols) (<http://sites.google.com/site/unicodesymbols/Home/emoji-symbols>) – The original proposals for encoding of Emoji symbols as Unicode characters.
- [Background data for Unicode proposal](https://www.unicode.org/~scherer/emoji4unicode/snapshot/utc) (<https://www.unicode.org/~scherer/emoji4unicode/snapshot/utc>)
- [emojitracker](http://emojitracker.com) (<http://emojitracker.com>) – List of most popularly used emoji on the Twitter platform; updated in real-time.

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This page was last edited on 7 May 2019, at 21:42 (UTC).

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