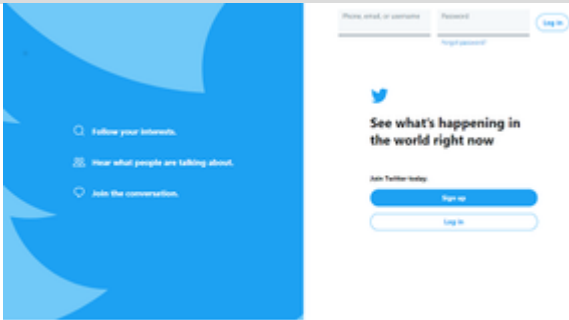# Twitter

Twitter (initially called **Twttr**) is an American microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like, and retweet tweets, but unregistered users can only read those that are publicly available. Users interact with Twitter through browser or mobile frontend software, or programmatically via its APIs. Prior to April 2020 services were accessible via SMS.[13] The service is provided by Twitter, Inc., a corporation based in San Francisco, California, and has more than 25 offices around the world.[14] Tweets were originally restricted to 140 characters, but the limit was doubled to 280 for non-CJK languages in November 2017.[15] Audio and video tweets remain limited to 140 seconds for most accounts.

Twitter was created by Jack Dorsey, Noah Glass, Biz Stone, and Evan Williams in March 2006 and launched in July of that year. By 2012, more than 100 million users posted 340 million tweets a day,[16] and the service handled an average of 1.6 billion search queries per day.[17][18][19] In 2013, it was one of the ten most-

Twitter, Inc.		
Screenshot		
The default page shown to logged-out users		
Type of business	Public	
Type of site	News, social networking service	
Available in	Multilingual	
Traded as	NYSE: TWTR (https://www.nyse.com/quote/XNYS:TWTR) S&P 500 Component	
Founded	March 21, 2006	
Headquarters	San Francisco, California U.S.	
Area served	Worldwide	
Founder(s)	Jack Dorsey Noah Glass Biz Stone Evan Williams	
Key people	Omid Kordestani (Executive Chairman)[1] Ned Segal (CFO) Jack Dorsey (CEO) Parag Agrawal (CTO)	
Industry	Internet	

visited websites and has been described as "the SMS of the Internet".[20] As of Q1 2019, Twitter had more than 330 million monthly active users.[10] Twitter is a some-to-many microblogging service, given that the vast majority of tweets are written by a small minority of users.[21][22]

An October 21, 2021 report found that Twitter's deep learning recommender system, an algorithm intended to personalize the user's Home timeline—introduced in 2016—favored "right-leaning politics".[23][24]

Revenue	▲ US$ 3.72 billion (2020)
Operating income	▲ US$ 27 million (2020)
Net income	▼ US$ -1.14 billion (2020)
Total assets	▲ US$ 13.37 billion (2020)
Total equity	▲ US$ 7.97 billion (2020)
Employees	5,500+ (December 2020)[2]
Subsidiaries	Vine Periscope MoPub
URL	twitter.com (https://twitter.com) ✏
Registration	Required
Users	330 million monthly active users (Q1 2019)
Launched	July 15, 2006
Current status	Active
Native client(s) on	iOS, Android, Windows Phone, Microsoft Windows, MacOS, Web
Written in	Java Ruby Scala JavaScript
[3][4][5][6][7][8][9][10][11][12]	

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A tweet sent from the International Space Station account, including a photograph, a link and two hashtags

History

2006–2007: Creation and initial reaction

Twitter's origins lie in a "daylong brainstorming session" held by board members of the podcasting company Odeo. Jack Dorsey, then an undergraduate student at New York University, introduced the idea of an individual using an SMS service to communicate with a small group.[25][26] The original project code name for the service was **twttr**, an idea that Williams later ascribed to Noah Glass,[27] inspired by Flickr and the five-character length of American SMS short codes. The decision was also partly due to the fact that the domain twitter.com was already in use, and it was six months after the launch of twttr that the crew purchased the domain and changed the name of the service to **Twitter**.[28] The developers initially

considered "10958" as a short code, but later changed it to "40404" for "ease of use and memorability".[29] Work on the project started on March 21, 2006, when Dorsey published the first Twitter message at 9:50 p.m. PST (UTC−08:00): "just setting up my twttr".[3] Dorsey has explained the origin of the "Twitter" title:[30]

A sketch, c. 2006, by Jack Dorsey, envisioning an SMS-based social network.

> ...we came across the word "twitter", and it was just perfect. The definition was "a short burst of inconsequential information", and "chirps from birds". And that's exactly what the product was.

The first Twitter prototype, developed by Dorsey and contractor Florian Weber, was used as an internal service for Odeo employees.[31] The full version was introduced publicly on July 15, 2006.[11] In October 2006, Biz Stone, Evan Williams, Dorsey, and other members of Odeo formed Obvious Corporation and acquired Odeo, together with its assets—including Odeo.com and Twitter.com—from the investors and shareholders.[32] Williams fired Glass, who was silent about his part in Twitter's startup until 2011.[33] Twitter spun off into its own company in April 2007.[34] Williams provided insight into the ambiguity that defined this early period in a 2013 interview:[35]

> With Twitter, it wasn't clear what it was. They called it a social network, they called it microblogging, but it was hard to define, because it didn't replace anything. There was this path of discovery with something like that, where over time you figure out what it is. Twitter actually changed from what we thought it was in the beginning, which we described as status updates and a social utility. It is that, in part, but the insight we eventually came to was Twitter was really more of an information network than it is a social network.

2007–2010

The tipping point for Twitter's popularity was the 2007 South by Southwest Interactive (SXSWi) conference. During the event, Twitter usage increased from 20,000 tweets per day to 60,000.[36] "The Twitter people cleverly placed two 60-inch plasma screens in the conference hallways, exclusively streaming Twitter messages," remarked *Newsweek*'s Steven Levy. "Hundreds of conference-goers kept tabs on each other via constant twitters. Panelists and speakers mentioned the service, and the bloggers in attendance touted it."[37] Reaction at the conference was highly positive. Blogger Scott Beale said that Twitter was "absolutely ruling" SXSWi. Social software researcher Danah Boyd said Twitter was "owning" the conference.[38] Twitter staff received the festival's Web Award prize with the remark "we'd like to thank you in 140 characters or less. And we just did!"[39]

The company experienced rapid initial growth. It had 400,000 tweets posted per quarter in 2007. This grew to 100 million tweets posted per quarter in 2008. In February 2010, Twitter users were sending 50 million tweets per day.[40] By March 2010, the company recorded over 70,000 registered applications.[41] As of June 2010, about 65 million tweets were posted each day, equaling about 750 tweets sent each second,

according to Twitter.[42] As of March 2011, that was about 140 million tweets posted daily.[43] As noted on Compete.com, Twitter moved up to the third-highest-ranking social networking site in January 2009 from its previous rank of twenty-second.[44]

Jack Dorsey, co-founder and CEO of Twitter, in 2009

Twitter's usage spikes during prominent events. For example, a record was set during the 2010 FIFA World Cup when fans wrote 2,940 tweets per second in the thirty-second period after Japan scored against Cameroon on June 14, 2010. The record was broken again when 3,085 tweets per second were posted after the Los Angeles Lakers' victory in the 2010 NBA Finals on June 17, 2010,[45] and then again at the close of Japan's victory over Denmark in the World Cup when users published 3,283 tweets per second.[46] The record was set again during the 2011 FIFA Women's World Cup Final between Japan and the United States, when 7,196 tweets per second were published.[47] When American singer Michael Jackson died on June 25, 2009, Twitter servers crashed after users were updating their status to include the words "Michael Jackson" at a rate of 100,000 tweets per hour.[48] The current record as of August 3, 2013, was set in Japan, with 143,199 tweets per second during a television screening of the movie *Castle in the Sky*[49] (beating the previous record of 33,388, also set by Japan for the television screening of the same movie).[50]

The first unassisted off-Earth Twitter message was posted from the International Space Station by NASA astronaut T. J. Creamer on January 22, 2010.[51] By late November 2010, an average of a dozen updates per day were posted on the astronauts' communal account, @NASA_Astronauts. NASA has also hosted over 25 "tweetups", events that provide guests with VIP access to NASA facilities and speakers with the goal of leveraging participants' social networks to further the outreach goals of NASA. In August 2010, the company appointed Adam Bain from News Corp.'s Fox Audience Network as president of revenue.[52]

Twitter acquired application developer Atebits on April 11, 2010. Atebits had developed the Apple Design Award-winning Twitter client Tweetie for the Mac and iPhone. The application, now called "Twitter" and distributed free of charge, is the official Twitter client for the iPhone, iPad and Mac.[53]

2010–2014

From September through October 2010, the company began rolling out "New Twitter", an entirely revamped edition of twitter.com. Changes included the ability to see pictures and videos without leaving Twitter itself by clicking on individual tweets which contain links to images and clips from a variety of supported websites including YouTube and Flickr, and a complete overhaul of the interface, which shifted links such as '@mentions' and 'Retweets' above the Twitter stream, while 'Messages' and 'Log Out' became accessible via a black bar at the very top of twitter.com. As of November 1, 2010, the company confirmed that the "New Twitter experience" had been rolled out to all users. In 2019, Twitter was announced to be the 10th most downloaded mobile app of the decade, from 2010 to 2019.[54]

On April 5, 2011, Twitter tested a new homepage and phased out the "Old Twitter".[55] However, a glitch came about after the page was launched, so the previous "retro" homepage was still in use until the issues were resolved; the new homepage was reintroduced on April 20.[56][57] On December 8, 2011, Twitter overhauled its website once more to feature the "Fly" design, which the service says is easier for new users to follow and promotes advertising. In addition to the *Home* tab, the *Connect* and *Discover* tabs were introduced along with a redesigned profile and timeline of Tweets. The site's layout has been compared to that of Facebook.[58][59] On February 21, 2012, it was announced that Twitter and Yandex agreed to a partnership. Yandex, a Russian search engine, finds value within the partnership due to Twitter's real time

news feeds. Twitter's director of business development explained that it is important to have Twitter content where Twitter users go.[60] On March 21, 2012, Twitter celebrated its sixth birthday while also announcing that it had 140 million users and 340 million tweets per day. The number of users was up 40% from their September 2011 number, which was said to have been at 100 million at the time.[61]

In April 2012, Twitter announced that it was opening an office in Detroit, with the aim of working with automotive brands and advertising agencies.[62] Twitter also expanded its office in Dublin.[63] On June 5, 2012, a modified logo was unveiled through the company blog, removing the text to showcase the slightly redesigned bird as the sole symbol of Twitter.[64][65] On October 5, 2012, Twitter acquired a video clip company called Vine that launched in January 2013.[66][67] Twitter released Vine as a standalone app that allows users to create and share six-second looping video clips on January 24, 2013. Vine videos shared on Twitter are visible directly in users' Twitter feeds.[68] Due to an influx of inappropriate content, it is now rated 17+ in Apple's[69] app store.[70] On December 18, 2012, Twitter announced it had surpassed 200 million monthly active users. Twitter hit 100 million monthly active users in September 2011.[71]

On January 28, 2013, Twitter acquired Crashlytics in order to build out its mobile developer products.[72] On April 18, 2013, Twitter launched a music app called Twitter Music for the iPhone.[73] On August 28, 2013, Twitter acquired Trendrr,[74] followed by the acquisition of MoPub on September 9, 2013.[75] As of September 2013, the company's data showed that 200 million users sent over 400 million tweets daily, with nearly 60% of tweets sent from mobile devices.[76]

2014–2019

In April 2014, Twitter underwent a redesign that made the site resemble Facebook somewhat, with profile picture and biography in a column left to the timeline, and a full-width header image with parallax scrolling effect.[a] That layout was used as main for the desktop front end until July 2019, undergoing changes over time such as removal of shortcut buttons to jump to the previous or next tweet in early 2017, and rounded profile pictures since June 2017.[77][78][79]

On June 4, 2014, Twitter announced that it would acquire Namo Media, a technology firm specializing in "native advertising" for mobile devices.[80] On June 19, 2014, Twitter announced that it had reached an undisclosed deal to buy SnappyTV, a service that helps edit and share video from television broadcasts.[81][82] The company was helping broadcasters and rights holders to share video content both organically across social and via Twitter's Amplify program.[83] In July 2014, Twitter announced that it intended to buy a young company called CardSpring for an undisclosed sum. CardSpring enabled retailers to offer online shoppers coupons that they could automatically sync to their credit cards in order to receive discounts when they shopped in physical stores.[84] On July 31, 2014, Twitter announced that it had acquired a small password-security startup called Mitro.[85] On October 29, 2014, Twitter announced a new partnership with IBM. The partnership was intended to help businesses use Twitter data to understand their customers, businesses and other trends.[86]

On February 11, 2015, Twitter announced that it had acquired Niche, an advertising network for social media stars, founded by Rob Fishman and Darren Lachtman.[87] The acquisition price was reportedly $50 million.[88] On March 13, 2015, Twitter announced its acquisition of Periscope, an app that allows live streaming of video.[89] In April 2015, the Twitter.com desktop homepage changed.[90] Twitter announced that it had acquired TellApart, a commerce ads tech firm, with $532 million stock.[91][92] Later in the year it became apparent that growth had slowed, according to Fortune,[93] Business Insider,[94] Marketing Land[95] and other news websites including Quartz (in 2016).[96] In June 2016, Twitter acquired an artificial intelligence startup called Magic Pony for $150 million.[97][98]

Since May 2018, tweet replies deemed by an artificial intelligence to be detractive from conversation are initially hidden, and only loaded through actuating a [Show more replies] button at the bottom.[99]

2019–present

In 2019, Twitter redesigned its user interface yet again. This newest "new Twitter" was deployed in "a gradual rollout".[100]

On July 15, 2019, Twitter ended support for TLS 1.0 and 1.1 connection.[101]

In October 2019, the tweet history of the Fortnite video game's account was resurrected after appearing deleted during a marketing campaign. This is the only documented occurrence of such resurrection.[102]

Twitter saw somewhat dramatic growth in 2020, possibly due to the COVID-19 pandemic.[103] During said pandemic, Twitter saw an increased use of the platform for misinformation related to the pandemic.[104] Twitter announced in March 2020 that it would start marking tweets which may contain misleading information, in some cases it will provide links to pages of fact-checking information.[105]

A major hack of Twitter on July 15, 2020, affected 130 high-profile accounts, both verified and unverified ones such as Barack Obama, Bill Gates, and Elon Musk; the hack allowed bitcoin scammers to send tweets via the compromised accounts that asked the followers to send bitcoin to a given public address, with the promise to double their money.[106] Within a few hours, Twitter disabled tweeting and reset passwords from all verified accounts.[106] Analysis of the event revealed that the scammers had used social engineering to obtain credentials from Twitter employees to access an administration tool used by Twitter to view and change these accounts' personal details as to gain access as part of a "smash and grab" attempt to make money quickly, with an estimated US$120,000 in bitcoin deposited in various accounts before Twitter intervened.[107] Several law enforcement entities including the FBI launched investigations into the attack to determine the perpetrators over concerns of broader implications of such a hack in the future.[108]

On June 1, 2020, Twitter deactivated the legacy desktop front end of their web site that had originally been introduced in 2014,[109][110] leaving the progressive web app version which was originally introduced in April 2017 as "Twitter Lite" for mobile phones[111] and used by default since July 2019[112] as the only option.

In November 2020, Twitter announced that it would develop a social audio feature on its platform.[113] Later, In December 2020, Twitter began beta testing its social audio feature known as Spaces with iOS users on their platform.[114]

"M2 Mobile Web", the original mobile web front end of Twitter, later served as fallback legacy version to clients without JavaScript support and incompatible browsers such as game consoles with limited web browsing capability. It was shut down in December 2020.[115]

During the George Floyd protests and through the 2020 election, misinformation spread by Donald Trump led to Twitter expanding a policy where they added disclaimers to misinformation.[116][117] Twitter was among the platforms associated with the storming of the United States Capitol on January 6, 2021. According to the Associated Press, "federal law enforcement authorities said that there was activity on Twitter, but that they weren't expecting the level of violence they ultimately saw last Wednesday."[118] This led to Trump being suspended from Twitter for glorifying violence, among other reasons such as false allegations of election fraud. According to researcher Shannon McGregor, "Twitter's permanent suspension of Trump's Twitter account is long overdue."[119] However, among conservatives and some European leaders, a degree of controversy ensued over the power held by a private company over speech.[120] Nathan Akehurst of Jacobin Magazine suggested that "Twitter profited from Donald Trump's racist

outbursts for years, only to delete his account a few days before his departure".[121]

On January 26, 2021, Twitter acquired Revue, an email newsletter service to compete with platforms like Substack.[122]

On February 25, 2021, Twitter announced Super Follows, a subscription service allowing content creators to receive payments for their content.[123][124]

In March 2021, Twitter started beta testing Spaces for Android users.[125] On March 5, it was announced that Twitter was working on a feature that would offer users a short window of time to rethink a tweet after they hit send. Twitter confirmed to CNN that it is testing an undo option that could potentially let users correct or even to retract a tweet before it is posted on the site. The feature was discovered by Jane Manchun Wong, an app developer who has a proven track record of uncovering new tools on social

Screen capture of "M2 Mobile Web" within ten days before shutdown

networks before they are officially released. Wong posted a GIF on the platform which show a blue "undo" bar that appears under the words "Your Tweet was sent."[126]

In 2021, Twitter is advancing an open source initiative that could be used by any social media platform and would make content moderation more transparent with a more robust appeals process. Called *Bluesky*, the use of such an open protocol would relieve companies of the sole responsibility for being centralized curators of content.[127] The Twitter research team that began work on this effort was set up in late 2019.[128]

In April 2021, Twitter announced that it was establishing its African headquarters in Ghana.[129][130]

On May 3, 2021, Twitter Spaces released globally.[131][132]

On June 5, the Nigerian government issued an indefinite ban on Twitter usage in the country after the platform removed tweets made by the Nigerian President Muhammadu Buhari.[133] The company claimed the tweets violated its policies against "abusive behavior". Twitter called the ban "deeply concerning". Several human rights organizations, including Amnesty International[134] and the local Socio-Economic Rights and Accountability Project (SERAP),[135] spoke out against the ban as well. The Nigerian government stated that the ban was not based solely on the removal of the tweets and was a result of "a litany of problems with the social media platform in Nigeria, where misinformation and fake news spread through it have had real world violent consequences".[136]

In June 2021, Twitter announced the beta rollout of its Super Follows feature. A group of users will be allowed to charge followers monthly for access to extra content, not available in their regular feed. The company also launched the Ticketed Spaces program in beta, a premium version of its audio room feature Spaces, which makes access to certain audio rooms paid.[137]

Twitter rolled out changes in the interface on August 11, 2021. Among adjustments in color uses, the major change was converting to their new Chirp font, designed to allow left-alignment of most Western languages as to make browsing of tweets easier to follow.[138]

An October 21, 2021 report based on a "long-running, massive-scale randomized experiment" that analyzed "millions of tweets sent between 1 April and 15 August 2020", found that Twitter's machine learning algorithm amplified right-leaning politics on personalized user Home timelines.[23]:1[24] The report compared seven countries with active Twitter users where data was available—Germany, Canada,

the United Kingdom, Japan, France, and Spain—and examined Tweets "from major political groups and politicians".[23]:4 Researchers used the 2019 Chapel Hill Expert Survey (CHESDATA) to position parties on political ideology within each country.[23]:4 The "machine learning algorithms"—introduced by Twitter in 2016—personalized 99% of users' feeds by displaying Tweets—even older Tweets and Retweets from accounts the user had not directly followed—but that the algorithm had "deemed relevant" to the users' past preferences.[23]:4 Twitter randomly chose 1% of users whose Home timelines displayed content in reverse-chronological order from users they directly followed.[23]:2

Leadership

As chief executive officer, Dorsey saw the startup through two rounds of capital funding by the venture capitalists who backed the company.[139] On October 16, 2008,[140] Williams took over the role of CEO, and Dorsey became chairman of the board.[141] On October 4, 2010, Williams announced that he was stepping down as CEO. Dick Costolo, formerly Twitter's chief operating officer, became CEO. On October 4, 2010, Williams made an announcement saying that he will stay with the company and "be completely focused on product strategy".[142][143]

According to *The New York Times*, "Mr. Dorsey and Mr. Costolo forged a close relationship" when Williams was away.[144] According to *PC Magazine*, Williams was "no longer involved in the day-to-day goings on at the company". He was focused on developing a new startup, and became a member of Twitter's board of directors, and promised to "help in any way [he could]". In 2011, Stone was still with Twitter but was working with AOL as an "advisor on volunteer efforts and philanthropy".[145] In January 2014, Stone announced the release of Jelly, a 'social Q&A network for mobile'.[146] Dorsey rejoined Twitter in March 2011, as executive chairman focusing on product development. At that time, he split his schedule with Square (where he is CEO), whose offices are within walking distance of Twitter's in San Francisco.[144]

In September 2011, board members and investors Fred Wilson and Bijan Sabet resigned from Twitter's board of directors.[147] In October 2012, Twitter announced it had hired former Google executive Matt Derella to become their new director of business agency development.[148] Twitter named former Goldman Sachs executive Anthony Noto as the company's CFO in July 2014, with an "annual salary of $250,000 and one-time restricted stock options of 1.5 million shares ... valued at $61.5 million".[149] On June 10, 2015, Twitter announced its CEO Dick Costolo would resign on July 1, 2015.[150] Noto was said to be considered a potential replacement for outgoing CEO Costolo.[151] On October 14, 2015, former Google chief business officer Omid Kordestani became executive chairman, replacing Dorsey who remains CEO.[152] On January 26, 2016, Leslie Berland, former executive vice president of global advertising, marketing, and digital partnerships at American Express, was named chief marketing officer.[153] In November 2016, COO Adam Bain announced his resignation and CFO Anthony Noto took over Bain's role.[154][155] A month later, on December 20, 2016, CTO Adam Messinger announced that he too was leaving.[156][157]

In February 2020, it was reported that Elliott Management Corporation had acquired a stake in Twitter, with activist shareholder and Republican Party supporter Paul Singer expected to seek the removal of Dorsey as CEO.[158] Twitter agreed to appoint a new independent director and two new board members, and to perform $2 billion in share buybacks.[159]

Appearance and features

Tweets

Tweets are publicly visible by default, but senders can restrict message delivery to only their followers. Users can mute users they do not wish to interact with, block accounts from viewing their tweets and remove accounts from their followers list.[160][161][162] Users can tweet via the Twitter website, compatible external applications (such as for smartphones), or by Short Message Service (SMS) available in certain countries.[163] Users may subscribe to other users' tweets—this is known as "following" and subscribers are known as "followers"[164] or "tweeps", a portmanteau of Twitter and peeps.[165] Individual tweets can be forwarded by other users to their own feed, a process known as a "retweet". In 2015, Twitter launched "quote tweet" (originally called "retweet with comment"),[166] a feature that allows users to add a comment to their retweet, nesting one tweet in the other.[167] Users can also "like" (formerly "favorite") individual tweets.[168]

The Twitter account page for Wikipedia, demonstrating the account-customized timeline view which shows tweets in reverse chronological order

The counters for "likes", "retweets", and replies appear next to the respective buttons in timelines such as on profile pages and search results. Counters for likes and retweets exist on a tweet's standalone page too. Since September 2020, quote tweets, formerly known as "retweet with comment", have an own counter on their tweet page.[166] Until the legacy desktop front end that was discontinued in 2020, a row with miniature profile pictures of up to ten liking and/or retweeting users was displayed (earliest documented implementation in December 2011 overhaul), as well as a tweet reply counter next to the according button on a tweet's page.[169][170]

Twitter allows users to update their profile via their mobile phone either by text messaging or by apps released for certain smartphones and tablets.[171] Twitter has been compared to a web-based Internet Relay Chat (IRC) client.[172] In a 2009 *Time* magazine essay, technology author Steven Johnson described the basic mechanics of Twitter as "remarkably simple":

> As a social network, Twitter revolves around the principle of followers. When you choose to follow another Twitter user, that user's tweets appear in reverse chronological order on your main Twitter page. If you follow 20 people, you'll see a mix of tweets scrolling down the page: breakfast-cereal updates, interesting new links, music recommendations, even musings on the future of education.[173]

According to research published in April 2014, around 44% of user accounts have never tweeted.[174]

The first tweet was posted by Jack Dorsey (creator) at 12:50 PM PST on March 21, 2006, and read "just setting up my twttr".[175] In 2009, the first tweet was sent from space. US astronauts Nicola Stott and Jeff Williams took part in a live 'tweetup' from the International Space Station with around 35 members of the public at the NASA Headquarters in Washington, D.C.[176]

In March 2021, Jack Dorsey listed his first tweet for sale. The highest bid for the tweet, $2.5 million, came from a Malaysian businessman, Sina Estavi. Along with the metadata of the original tweet, the buyer was to receive a certificate that was digitally signed and verified by Dorsey.[177]

Content

San Antonio-based market-research firm Pear Analytics analyzed 2,000 tweets (originating from the United States and in English) over a two-week period in August 2009 from 11:00 am to 5:00 pm (CST) and separated them into six categories.[178] Pointless babble made up 40%, with 38% being conversational. Pass-along value had 9%, self-promotion 6% with spam and news each making 4%.

Despite Jack Dorsey's own open contention that a message on Twitter is "a short burst of inconsequential information", social networking researcher danah boyd responded to the Pear Analytics survey by arguing that what the Pear researchers labeled "pointless babble" is better characterized as "social grooming" or "peripheral awareness" (which she justifies as persons "want[ing] to know what the people around them are thinking and doing and feeling, even when co-presence isn't viable").[179] Similarly, a survey of Twitter users found that a more specific social role of passing along messages that include a hyperlink is an expectation of reciprocal linking by followers.[180]

Content of tweets according to Pear Analytics
- News (3.6%)
- Spam (3.8%)
- Self-promotion (5.9%)
- Pointless babble (40.1%)
- Conversational (37.6%)
- Pass-along value (8.7%)

Format

Hashtags, usernames, retweets and replies

Users can group posts together by topic or type by use of hashtags – words or phrases prefixed with a "#" sign. Similarly, the "@" sign followed by a username is used for mentioning or replying to other users.[181]

In 2014, in anticipation for the FIFA World Cup, Twitter introduced hashflags, special hashtags that automatically generate a custom emoji next to them for a certain period of time, following the success of a similar campaign during the 2010 World Cup.[182] Hashflags may be generated by Twitter themselves (such as to raise awareness for social issues)[183] or be purchased by corporations (such as to promote products and events).[184]

To repost a message from another Twitter user and share it with one's own followers, a user can click the retweet button within the Tweet. Users can reply other accounts' replies. Since November 2019, users can hide replies to their messages. Since May 2020, users can select who can reply each of their tweets before sending them: anyone, accounts who follow the poster, specific accounts, and none. This ability was upgraded in July 2021 to make the feature retroactively applicable to tweets after they have been sent out.[185][186]

Twitter Lists

In late 2009, the "Twitter Lists" feature was added, making it possible for users to follow ad hoc lists of authors instead of individual authors.[164][187]

Using SMS

Through SMS, users can communicate with Twitter through five gateway numbers: short codes for the United States, Canada, India, New Zealand, and an Isle of Man-based number for international use. There is also a short code in the United Kingdom which is only accessible to those on the Vodafone, O2[188] and
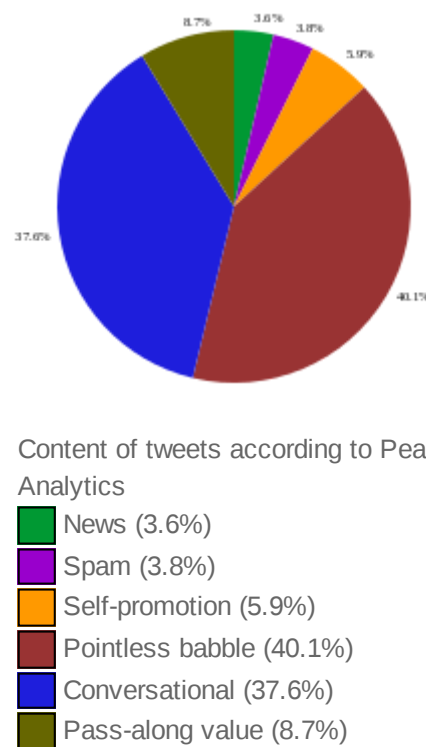
Orange[189] networks. In India, since Twitter only supports tweets from Bharti Airtel,[190] an alternative platform called smsTweet[191] was set up by a user to work on all networks.[192] A similar platform called GladlyCast exists for mobile phone users in Singapore and Malaysia.[193]

The tweets were set to a largely constrictive 140-character limit for compatibility with SMS messaging, introducing the shorthand notation and slang commonly used in SMS messages. The 140-character limit also increased the usage of URL shortening services such as bit.ly, goo.gl, tinyurl.com, tr.im, and other content-hosting services such as TwitPic, memozu.com and NotePub to accommodate multimedia content and text longer than 140 characters. Since June 2011, Twitter has used its own t.co domain for automatic shortening of all URLs posted on its site, making other link shorteners unnecessary for staying within Twitter's 140 character limit.[194][195]

In August 2019, Jack Dorsey's account was hacked by using Twitter's SMS to tweet feature to send crude messages. Days later, the ability to send a tweet via SMS was temporarily turned off.[196]

In April 2020, Twitter discontinued the ability to receive SMS messages containing the text of new tweets in most countries.[197][198]

Character limits

In 2016, Twitter announced that media such as photos, videos, and the person's handle, would not count against the already constrictive 140 character limit. A user photo post used to count for a large chunk of a Tweet, about 24 characters.[199] Attachments and links would also no longer be part of the character limit.[200]

On March 29, 2016, Twitter introduced the ability to add a caption of up to 480 characters to each image attached to a tweet.[201][202] This caption can be accessed by screen reading software or by hovering the mouse above a picture inside TweetDeck.

Since March 30, 2017, the Twitter handles are outside the tweet itself, therefore they no longer count towards the character limit.[203] Only new Twitter handles added to the conversation count towards the limit.

In 2017, Twitter doubled their historical 140-character-limitation to 280.[204] Under the new limit, glyphs are counted as a variable number of characters, depending upon the script they are from: most European letters and punctuation forms count as one character, while each CJK glyph counts as two so that only 140 such glyphs can be used in a tweet.[204]

URL shortener

t.co is a URL shortening service created by Twitter.[194] It is only available for links posted to Twitter and not available for general use.[194] All links posted to Twitter use a t.co wrapper.[205] Twitter hopes that the service will be able to protect users from malicious sites,[194] and will use it to track clicks on links within tweets.[194][206]

Having used the services of third parties TinyURL and bit.ly,[207] Twitter began experimenting with its own URL shortening service for private messages in March 2010 using the twt.tl domain,[205] before it purchased the t.co domain. The service was tested on the main site using the accounts @TwitterAPI, @rsarver and @raffi.[205] On September 2, 2010, an email from Twitter to users said they would be expanding the roll-out of the service to users. On June 7, 2011, Twitter announced that it was rolling out the feature.[195]

Trending topics

A word, phrase, or topic that is mentioned at a greater rate than others is said to be a "trending topic". Trending topics become popular either through a concerted effort by users or because of an event that prompts people to talk about a specific topic.[208] These topics help Twitter and their users to understand what is happening in the world and what people's opinions are about it.[209]

Countries and cities with local *trending topics* in Twitter

Trending topics are sometimes the result of concerted efforts and manipulations by preteen and teenaged fans of certain celebrities or cultural phenomena, particularly musicians like Lady Gaga (known as Little Monsters), Justin Bieber (Beliebers), Rihanna (Rih Navy) and One Direction (Directioners), and novel series *Twilight* (Twihards) and *Harry Potter* (Potterheads). Twitter has altered the trend algorithm in the past to prevent manipulation of this type with limited success.[210]

The Twitter web interface displays a list of trending topics on a sidebar on the home page, along with sponsored content (see image).

Twitter often censors trending hashtags that are claimed to be abusive or offensive. Twitter censored the #Thatsafrican[211] and #thingsdarkiessay hashtags after users complained that they found the hashtags offensive.[212] There are allegations that Twitter removed #NaMOinHyd from the trending list and added an Indian National Congress-sponsored hashtag.[213] President Donald Trump prosteted trends calling them "unfair, disgusting, illegal, ridiculous" claiming the ones that are bad about him are blown up.[214][215][216]

Moments

In October 2015, Twitter introduced "Moments"—a feature that allows users to curate tweets from other users into a larger collection. Twitter initially intended the feature to be used by its in-house editorial team and other partners; they populated a dedicated tab in Twitter's apps, chronicling news headlines, sporting events, and other content.[217][218] In September 2016, creation of moments became available to all Twitter users.[219]

Adding and following content

There are numerous tools for adding content, monitoring content and conversations including Twitter's own TweetDeck, Salesforce.com, HootSuite, and Twitterfeed.com. As of 2009, fewer than half of tweets posted were posted using the web user interface with most users using third-party applications (based on an analysis of 500 million tweets by Sysomos).[220]

Verified accounts

In June 2009, after being criticized by Kanye West and sued by Tony La Russa over unauthorized accounts run by impersonators, the company launched their "Verified Accounts" program.[221][222] Twitter stated that an account with a "blue tick" verification badge indicates "we've been in contact with the person or entity the account is representing and verified that it is approved".[223] In July 2016, Twitter announced a public application process to grant verified status to an account "if it is determined to be of public interest" and that verification "does not imply an endorsement".[224][225][226] Verified status allows access to some features unavailable to other users, such as only seeing mentions from other verified accounts.[227]

In November 2020, Twitter announced a relaunch of its verification system in 2021. According to the new policy, Twitter verifies six different types of accounts; for three of them (companies, brands, and influential individuals like activists), the existence of a Wikipedia page will be one criterion for showing that the account has "Off Twitter Notability".[228] Twitter states that it will re-open public verification applications at some point in "early 2021".[229]

Mobile

Twitter has mobile apps for iPhone, iPad, Android, Windows 10, Windows Phone, BlackBerry, and Nokia S40.[231] Users can also tweet by sending SMS.[232] In April 2017, Twitter introduced *Twitter Lite*, a progressive web app designed for regions with unreliable and slow Internet connections, with a size of less than one megabyte, designed for devices with limited storage capacity.[233][234]

This has been released in countries with slow internet connection such as the Philippines.[235]

Twitter Lite has evolved into the main Twitter web interface, see section "*interface*".

Third-party applications

For many years, Twitter has limited the use of third-party applications accessing the service by implementing a 100,000 user limit per application.[236] Since August 2010, third-party Twitter applications have been required to use OAuth, an authentication method that does not require users to enter their password into the authenticating application. This was done to increase security and improve the user experience.[237]

Related headlines feature

This feature adds websites to the bottom of a tweet's permalink page. If a website embedded a tweet onto one of their stories, the tweet will show the websites that mentioned the tweet. This feature was added onto Twitter so if the viewer doesn't understand what the tweet means, they can click on the sites to read more about what the person is talking about.[238]

Polls

In 2015, Twitter began to roll out the ability to attach poll questions to tweets. Polls are open for up to 7 days, and voters are not personally identified.[239]
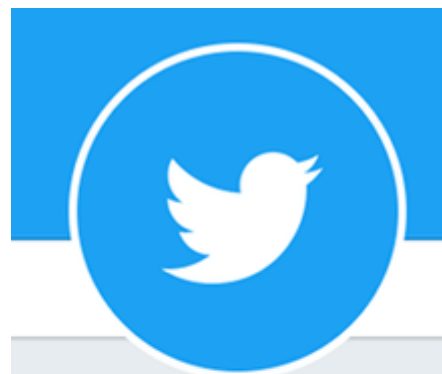
The official Twitter profile of Twitter, Inc. The blue check mark right of the profile name indicates that it is a verified account.
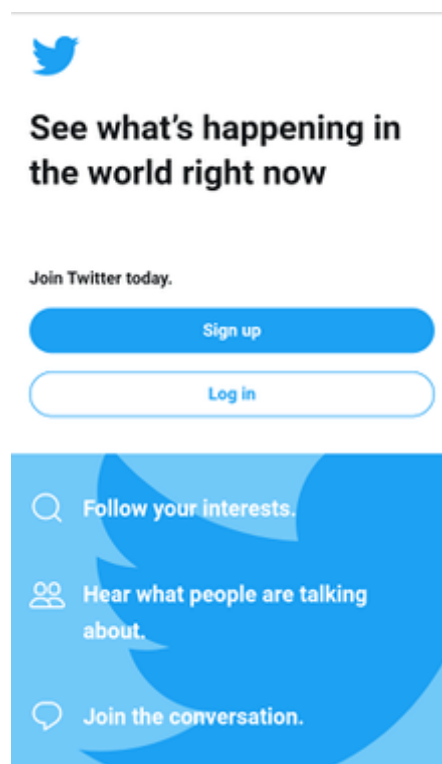
The mobile version of Twitter[230]

Initially, polls could have only two options with a maximum of twenty characters per option. Later, the ability to add four options with up to 25 characters per option, was added.

Integrated photo-sharing service

On June 1, 2011, Twitter announced its own integrated photo-sharing service that enables users to upload a photo and attach it to a Tweet right from Twitter.com.[240] Users now also have the ability to add pictures to Twitter's search by adding hashtags to the tweet.[241] Twitter also plans to provide photo galleries designed to gather and syndicate all photos that a user has uploaded on Twitter and third-party services such as TwitPic.[241]

Streaming video

In 2016, Twitter began to place a larger focus on live streaming video programming, hosting various events including streams of the Republican and Democratic conventions during the U.S. presidential campaign as part of a partnership with CBS News,[242] Dreamhack and ESL eSports events,[243] and winning a bid for non-exclusive streaming rights to ten NFL *Thursday Night Football* games in the 2016 season.[243][244]

During an event in New York in May 2017, Twitter announced that it planned to construct a 24-hour streaming video channel hosted within the service, featuring content from various partners.[243][245] CEO Jack Dorsey stated that the digital video strategy was part of a goal for Twitter to be "the first place that anyone hears of anything going on that matters to them"; as of the first quarter of 2017, Twitter had over 200 content partners, who streamed over 800 hours of video over 450 events.[246]

Twitter announced a number of new and expanded partnerships for its streaming video services at the event, including Bloomberg, BuzzFeed, Cheddar (*Opening Bell* and *Closing Bell* shows; the latter was introduced in October 2016) IMG Fashion (coverage of fashion events), Live Nation Entertainment (streaming concert events), Major League Baseball (weekly online game stream, plus a weekly program with live look-ins and coverage of trending stories), MTV and BET (red carpet coverage for their MTV Video Music Awards, MTV Movie & TV Awards, and BET Awards), NFL Network (the Monday-Thursday news program *NFL Blitz Live*, and Sunday *Fantasy Gameday*),[247][248] the PGA Tour (*PGA Tour Live* coverage of early tournament rounds preceding television coverage),[249] *The Players' Tribune*, Ben Silverman and Howard T. Owens' Propagate (daily entertainment show *#WhatsHappening*), *The Verge* (weekly technology show *Circuit Breaker: The Verge's Gadget Show*), Stadium (a new digital sports network being formed by Silver Chalice and Sinclair Broadcast Group)[250][251][252] and the WNBA (weekly game).[246]

Account archival

Twitter has offered two different methods of archiving one's own Twitter account data. Those methods have their individual benefits and disadvantages. As of September 2019, only the latter archival method is available.

Browsable legacy Twitter archive format

In December 2012, Twitter introduced a "Tweet archival" feature, which created a ZIP file that contains an offline-browsable archive of all tweets.[253] Those exported tweets could be browsed and searched offline by using the bundled user-interface accessible through an Internet browser, which used client-side, JavaScript-powered pagination.[254] The user interface of the tweet archive browser had a design similar to Twitter's 2010–2014 desktop user interface, even until the feature's removal. The tweet text contents, ID's, time data and source labels are located in the file called "tweets.csv". It was possible to request at least one archive per day. The ability to export this type of tweet archive, which never existed on the new layout, has been removed entirely in August 2019[when exactly?], after co-existing with the new 2018 data archival method. Even when accessing the legacy Twitter desktop website layout using the user-agent of an older browser version, the option has disappeared from the account settings.

Spaces

A social audio feature that enables users to host or participate in a live-audio virtual environment called *space* for conversation. Spaces can accommodate a maximum of 13 people (1 host, 2 co-hosts and 10 speakers) onstage and an unlimited number of listeners. The feature was initially limited to users with at least 600 followers. Since October 21, 2021, any Twitter user can create a Space from the Android or iOS app.[255]

Fleets

In March 2020, Twitter began to test a stories feature known as "fleets" in some markets,[256][257] which officially launched on November 17, 2020.[258][259] Similarly to equivalent features, fleets can contain text and media, are only accessible for 24 hours after they are posted, and are accessed within the Twitter app via an area above the timeline.[256]

In June 2021, Twitter announced it would start implementing advertising into fleets, integrating full-screen ads among user-created content.[260] On July 14, 2021, Twitter stated that it would remove Fleets by August 3. Twitter had intended for fleets to encourage more users to tweet regularly, rather than simply consume other folks' tweets, but instead fleets were generally used by users who already tweeted a lot. The company stated that their spot at the top of the screen would now be occupied by currently active Spaces from the user's feed.[261]

Twitter Blue

On June 3, 2021, Twitter announced a service known as Twitter Blue, which provides features exclusive to those who are subscribers to the Twitter Blue service. They include:

- Undo Tweet, which allows users to withdraw a tweet within a short time frame before it is posted.[262]
- Bookmarks, which allows users to save individual tweets into folders.[262]
- *Reader mode*, which converts threads of tweets into an article-like view.[262]
- Color themes for the Twitter mobile app.[262]
- Dedicated customer support.[262]

The service was initially released in Australia and Canada.[262] On November 9, 2021, Twitter Blue was launched for US customers.[263]

Tip Jar

In May 2021, Twitter began testing a Tip Jar feature on its iOS and Android clients. The feature allows users to send monetary tips to certain accounts, providing a financial incentive for content creators on the platform. The Tip Jar is optional and users can choose whether or not to enable tips for their account. The day the feature was launched, a user discovered that sending a tip through PayPal would reveal the sender's address to the recipient.[264]

On September 23, 2021, Twitter announced that it will allow users to tip users on the social network with bitcoin. The feature will be available for iOS users. Previously, users could tip with fiat currency using services such as Square's Cash app and PayPal's Venmo. Twitter will integrate the Strike bitcoin lightning wallet service. It was noted that at this current time, Twitter will not take a cut of any money sent through the tips feature.[265]

The Shop Module

In July 2021, Twitter launched a test of The Shop Module, a shopping extension that directs customers to a brand's products from its official Twitter account. The feature initially launched for US-based users only and only on iOS.[266]

Safety Mode

On September 1, 2021, Twitter began to roll out Safety Mode, allowing users to reduce disruptive interactions. The rollout began with a small beta-feedback group on iOS, Android, and Twitter's web application.[267]

The functionality allows users to temporarily block accounts for seven days when potentially harmful language is detected. If a user has Safety Mode enabled, authors of tweets that are identified by Twitter's technology as being harmful or exercising uninvited behavior will be temporarily unable to follow the account, send direct messages, or see tweets from the user with the enabled functionality during the temporary block period. Jarrod Doherty, senior product manager at Twitter, stated that the technology in place within Safety mode assesses existing relationships to prevent blocking accounts that the user frequently interacts with.

Twitter first revealed Safety Mode in February 2021 within the Analyst Day slide deck.[268]

NFT Digital Assets

On September 23, 2021, Twitter revealed that it is experimenting with a feature that would allow users to authenticate and showcase their collections of NFT digital assets on the platform. The company did not provide specifics about the project but stated that it would be a way to support creators who make digital art.

Usage

Daily user estimates vary as the company does not publish statistics on active accounts. A February 2009 Compete.com blog entry ranked Twitter as the third most used social network based on their count of 6 million unique monthly visitors and 55 million monthly visits.[44] In 2009, Twitter had a monthly user retention rate of forty percent.[269] Twitter had annual growth of 1,382 percent, increasing from 475,000

unique visitors in February 2008 to 7 million in February 2009. Twitter's annual growth rate decreased from 7.8 percent in 2015 to 3.4 percent in 2017.[270] An April 2017 a statista.com blog entry ranked Twitter as the tenth most used social network based on their count of 319 million monthly visitors.[271] Its global user base in 2017 was 328 million.[272] As per August 2018, Twitter light (data saving app) is available in 45 countries.[273]

Demographics

In 2009, Twitter was mainly used by older adults who might not have used other social sites before Twitter, said Jeremiah Owyang, an industry analyst studying social media. "Adults are just catching up to what teens have been doing for years", he said.[276] According to comScore only 11% of Twitter's users are aged 12 to 17.[276] comScore attributed this to Twitter's "early adopter period" when the social network first gained popularity in business settings and news outlets attracting primarily older users. However, comScore also stated in 2009 that Twitter had begun to "filter more into the mainstream", and "along with it came a culture of celebrity as Shaq, Britney Spears and Ashton Kutcher joined the ranks of the Twitterati".[277]

According to a study by Sysomos in June 2009, women make up a slightly larger Twitter demographic than men—53% over 47%. It also stated that 5% of users accounted for 75% of all activity and that New York City has more Twitter users than other cities.[278]

Twitter.com Top5 Global Markets by Reach (%)[274][275]		
Country		**Fraction**
Indonesia	June 2010	20.8%
	December 2010	19.0%
Brazil	June 2010	20.5%
	December 2010	21.8%
Venezuela	June 2010	19.0%
	December 2010	21.1%
Netherlands	June 2010	17.7%
	December 2010	22.3%
Japan	June 2010	16.8%
	December 2010	20.0%

Note: Visitor age >15, home and work locations. Excludes visitation from public computers such as Internet cafes or access from mobile phones or PDAs.

According to Quancast, 27 million people in the US used Twitter as of September 3, 2009; 63% of Twitter users are under 35 years old; 60% of Twitter users are Caucasian, but a higher than average (compared to other Internet properties) are African American/black (16%) and Hispanic (11%); 58% of Twitter users have a total household income of at least US$60,000.[279] The prevalence of African American Twitter usage and in many popular hashtags has been the subject of research studies.[280][281]

On September 7, 2011, Twitter announced that it had 100 million active users logging in at least once a month and 50 million active users every day.[282]

In 2012, the country with the most active users on Twitter was the United States.[283] A 2016 Pew research poll found that Twitter is used by 24% of all online US adults. It was equally popular with men and women (24% and 25% of online Americans respectively), but more popular with younger (36% of 18–29 year olds) generations.[284]

In an article published on January 6, 2012, Twitter was confirmed to be the biggest social media network in Japan, with Facebook following closely in second. ComScore confirmed this, stating that Japan was the only country in the world where Twitter leads Facebook.[285]

On March 31, 2014, Twitter announced that there were 255 million monthly active users (MAUs) and 198 million mobile MAUs.[286] In 2013, there were over 100 million users actively using Twitter daily and about 500 million Tweets every day,[287] with about 29% of users checking Twitter multiple times a

day.[288] As of Q1 2019, Twitter had more than 330 million monthly active users. The majority of Twitter users skew to the American political left.[289][290][10]

A 2019 survey conducted by the Pew Foundation found that Twitter users are more likely than the general public to have both a college degree and higher income than the average U.S. adult. Users are also three times as likely to be younger than 50 years old, with the median age of adult U.S. users being 40 years old. The survey found that 10% of users who are most active on Twitter are responsible for 80% of all tweets, focusing mainly on the topics of politics and women.[291]

Levels of use

About 22% of Americans say they have ever used Twitter, according to a 2019 Pew Research Center survey.[292] Noting how demographics of Twitter users differ from the average Americans, commentators have cautioned against media narratives that treat Twitter as representative of the population,[293] adding that only 10% of users Tweet actively, and that 90% of Twitter users have Tweeted no more than twice. In 2016, shareholders sued Twitter, alleging it "artificially inflated its stock price by misleading them about user engagement." The company announced on September 20, 2021 that it would pay $809.5 million to settle this class-action lawsuit.[294]

Branding

Twitter has become internationally identifiable by its signature bird logo, or the Twitter Bird. The original logo, which was simply the word "Twitter", was in use from its launch in March 2006. It was accompanied by an image of a bird which was later discovered to be a piece of clip art created by the British graphic designer Simon Oxley.[295] A new logo had to be redesigned by founder Biz Stone with help from designer Philip Pascuzzo, which resulted in a

The Twitter logo from September 14, 2010, to June 5, 2012, featuring the silhouette version of "Larry the Bird"

more cartoon-like bird in 2009. This version had been named "Larry the Bird", specifically after Larry Bird of the NBA's Boston Celtics fame.[296][297]

Within a year, the Larry the Bird logo underwent a redesign by Stone and Pascuzzo to eliminate the cartoon features, leaving a solid silhouette of Larry the Bird that was used from 2010 through 2012.[296] In 2012, Douglas Bowman created a further simplified version of Larry the Bird, keeping the solid silhouette but making it more similar to a mountain bluebird.[298] This new logo was called simply the "Twitter Bird" and has been used as the company's branding since.[296][299]

Finances

For the fiscal year 2017, Twitter reported losses of US$108 million, with an annual revenue of $2.443 billion, a decrease of 3.9% over the previous fiscal cycle. Twitter's shares traded at over $17 per share, and its market capitalization was valued at over US$25.6 billion in October 2018.

Year	Revenue in mil. US$	Net income in mil. US$	Total assets in mil. US$	Employees
2010[300]	28	−67	0	N/A
2011[300]	106	−164	721	N/A
2012[300]	317	−79	832	2,000
2013[300]	665	−645	3,366	2,712
2014[301]	1,403	−578	5,583	3,638
2015[302]	2,218	−521	6,442	3,898
2016[303]	2,530	−457	6,870	3,583
2017[304]	2,443	−108	7,412	3,372
2018[305]	3,042	1,206	10,163	3,900
2019[306]	3,459	1,466	12,703	4,900
2020[2]	3,716	1,136	13,379	over 5,500

Funding

Twitter raised over US$57 million from venture capitalist growth funding, although exact figures are not publicly disclosed. Twitter's first A round of funding was for an undisclosed amount that is rumored to have been between US$1 million and US$5 million.[307] Its second B round of funding in 2008 was for US$22 million[308] and its third C round of funding in 2009 was for US$35 million from Institutional Venture Partners and Benchmark Capital along with an undisclosed amount from other investors including Union Square Ventures, Spark Capital, and Insight Venture Partners.[307] Twitter is backed by Union Square Ventures, Digital Garage, Spark Capital, and Bezos Expeditions.[309]

Twitter's San Francisco headquarters located at 1355 Market Street

In May 2008, *The Industry Standard* remarked that Twitter's long-term viability is limited by a lack of revenue.[310] Twitter board member Todd Chaffee forecast that the company could profit from e-commerce, noting that users may want to buy items directly from Twitter since it already provides product recommendations and promotions.[311]

By March 2009, communications consultant Bill Douglass predicted in an interview that Twitter would be worth $1 billion within six months,[312] which came to pass when the company closed a financing round valuing it at $1 billion in September of that year.[313]

The company raised US$200 million in new venture capital in December 2010, at a valuation of approximately US$3.7 billion.[314] In March 2011, 35,000 Twitter shares sold for US$34.50 each on Sharespost, an implied valuation of US$7.8 billion.[315] In August 2010 Twitter announced a "significant" investment led by Digital Sky Technologies that, at US$800 million, was reported to be the largest venture round in history.[316]

In December 2011, the Saudi prince Alwaleed bin Talal invested US$300 million in Twitter. The company was valued at US$8.4 billion at the time.[317] In 2016, Twitter was valued by Forbes at US$15.7 billion.[318]

Revenue sources

In July 2009, some of Twitter's revenue and user growth documents were published on *TechCrunch* after being illegally obtained by Hacker Croll. The documents projected 2009 revenues of US$400,000 in the third quarter and US$4 million in the fourth quarter along with 25 million users by the end of the year. The projections for the end of 2013 were US$1.54 billion in revenue, US$111 million in net earnings, and one billion users.[319] No information about how Twitter planned to achieve those numbers was published. In response, Twitter co-founder Biz Stone published a blog post suggesting the possibility of legal action against the hacker.[320]

On April 13, 2010, Twitter announced plans to offer paid advertising for companies that would be able to purchase "promoted tweets" to appear in selective search results on the Twitter website, similar to Google Adwords' advertising model. As of April 13, Twitter announced it had already signed up a number of companies wishing to advertise, including Sony Pictures, Red Bull, Best Buy, and Starbucks.[321][322]

The company generated US$45 million in annual revenue in 2010, after beginning sales midway through that year; the company operated at a loss through most of 2010.[314]

Users' photos can generate royalty-free revenue for Twitter, and an agreement with World Entertainment News Network (WENN) was announced in May 2011.[323] In June 2011, Twitter announced that it would offer small businesses a self-service advertising system.[324] Twitter generated US$139.5 million in advertising sales during 2011.

The self-service advertising platform was launched in March 2012 to American Express card members and merchants in the U.S. on an invite-only basis. Twitter later reported that numerous small businesses and people who used the self-service tool provided feedback that indicated they were impressed by the feature.[325] To continue their advertising campaign, Twitter announced on March 20, 2012, that promoted tweets would be introduced to mobile devices.[326] In April 2013, Twitter announced that its Twitter Ads self-service platform, consisting of promoted tweets and promoted accounts, was available to all U.S. users without an invite.[325]

Twitter's financial revenue statistics for the first quarter of 2014 was reported as US$250 million.[286]

On August 3, 2016, Twitter launched Instant Unlock Card, a new feature that encourages people to tweet about a brand in order to earn rewards and utilize the social media network's conversational ads. The format itself consists of images or videos with call-to-action buttons and a customizable hashtag.[327]

Stock launch and tax issues

On September 12, 2013, Twitter announced that it had filed papers with the U.S. Securities and Exchange Commission (SEC) ahead of a planned stock market listing.[328] It revealed its prospectus in an 800-page filing.[329] Twitter planned to raise US$1 billion as the basis for its stock market debut.[330] The initial public offering (IPO) filing states that "200,000,000+ monthly active users" access Twitter and "500,000,000+ tweets per day" are posted.[35][331] In an October 15, 2013, amendment to their SEC S-1 filing,[332] Twitter declared that they would list on the New York Stock Exchange (NYSE), quashing speculation that their stock would trade on the NASDAQ exchange. This decision was widely viewed to

be a reaction to the botched initial public offering of Facebook.[333] On November 6, 2013, 70 million shares[334] were priced at US$26 and issued by lead underwriter Goldman Sachs.[335]

On November 7, 2013, the first day of trading on the NYSE, Twitter shares opened at $26.00 and closed at US$44.90, giving the company a valuation of around US$31 billion.[336] Consequently, executives and early investors marginally increased their capital, including co-founders Williams and Dorsey who received a sum of US$2.56 billion and US$1.05 billion respectively, while Costolo's payment was US$345 million.[337] On February 5, 2014, Twitter published its first results as a public company, showing a net loss of $511 million in the fourth quarter of 2013.[338] On January 5, 2016, CEO Jack Dorsey commented on a report that Twitter planned to expand its character limit to 10,000 (private messages already had the longer limit as of July), requiring users to click to see anything beyond 140 characters. He said while Twitter would "never lose that feeling" of speed, users could do more with the text.[339]

Twitter's San Francisco headquarters, as seen from a corner on Market Street

In September 2016, Twitter shares rose 20% after a report that it had received takeover approaches.[340] Potential buyers were Alphabet (the parent company of Google),[340] Microsoft,[341][342][343] Salesforce.com,[340][344] Verizon,[344] and The Walt Disney Company.[345][346] Twitter's board of directors were open to a deal, which could have come by the end of 2016.[340][347] However, no deal was made, with reports in October stating that all the potential buyers dropped out partly due to concerns over abuse and harassment on the service.[348][349][350] In June 2017, Twitter revamped its dashboard to improve the new user experience.[351][352]

In November 2017, the Paradise Papers, a set of confidential electronic documents relating to offshore investment, revealed that Twitter is among the corporations that avoided paying taxes by using offshore companies.[353] Later *The New York Times* reported that Russian-American billionaire Yuri Milner had strong Kremlin backing for his investments in Facebook and Twitter.[354]

Contributions

In the 2018 US election cycle, 96.15% ($295,722) of donations of $200 or more from Twitter employees toward the category of "all federal candidates" went to Democrats, versus 3.85% ($11,850) to Republicans.[355]

Advertising bans

In October 2017, Twitter banned the Russian media outlets RT and Sputnik from advertising on their website following the conclusions of the U.S. national intelligence report the previous January that both Sputnik and RT had been used as vehicles for Russia's interference in the 2016 US presidential election.[356] Maria Zakharova for the Russian foreign ministry said the ban was a "gross violation" by the US of free speech.[357]

In October 2019, Twitter announced it would stop running political ads on its ad platform effective November 22. This resulted from several spurious claims made by political ads. Company CEO Dorsey clarified that internet advertising had great power and was extremely effective for commercial advertisers,

the power brings significant risks to politics where crucial decisions impact millions of lives.[358]

User Monetization

In February 2021, Twitter began testing different methods of monetizing users. This is in response to social platforms like Instagram, TikTok, Medium, Facebook, and Clubhouse increasingly focusing on monetizing platform creators. In June 2021, the company opened applications for its premium subscription options called Super Follows. This lets eligible accounts charge $2.99, $4.99 or $9.99 per month to subscribe to the account.[359] The launch only generated about $6,000 in its first two weeks.[360]

On August 27, 2021, Twitter rolled out Ticketed Spaces, which let Twitter Spaces hosts charge between $1 and $999 for access to their rooms.[361]

Technology

Implementation

Twitter places great reliance on open-source software.[362] The Twitter Web interface uses the Ruby on Rails framework,[363] deployed on a performance enhanced Ruby Enterprise Edition implementation of Ruby.[364]

In the early days of Twitter, tweets were stored in MySQL databases that were temporally sharded (large databases were split based on time of posting). After the huge volume of tweets coming in caused problems reading from and writing to these databases, the company decided that the system needed re-engineering.[365]

From Spring 2007 to 2008, the messages were handled by a Ruby persistent queue server called Starling.[366] Since 2009, implementation has been gradually replaced with software written in Scala.[367] The switch from Ruby to Scala and the JVM has given Twitter a performance boost from 200–300 requests per second per host to around 10,000–20,000 requests per second per host. This boost was greater than the 10x improvement that Twitter's engineers envisioned when starting the switch. The continued development of Twitter has also involved a switch from monolithic development of a single app to an architecture where different services are built independently and joined through remote procedure calls.[365]

As of April 6, 2011, Twitter engineers confirmed that they had switched away from their Ruby on Rails search stack to a Java server they call Blender.[8]

Individual tweets are registered under unique IDs called snowflakes, and geolocation data is added using 'Rockdove'. The URL shortener *t.co* then checks for a spam link and shortens the URL. Next, the tweets are stored in a MySQL database using Gizzard, and the user receives an acknowledgement that the tweets were sent. Tweets are then sent to search engines via the Firehose API. The process is managed by FlockDB and takes an average of 350 ms.[362]

On August 16, 2013, Raffi Krikorian, Twitter's vice president of platform engineering, shared in a blog post that the company's infrastructure handled almost 143,000 tweets per second during that week, setting a new record. Krikorian explained that Twitter achieved this record by blending its homegrown and open source technologies.[365][368]

The service's application programming interface (API) allows other web services and applications to integrate with Twitter.[369]

Interface

Twitter introduced the first major redesign of its user interface in September 2010, adopting a dual-pane layout with a navigation bar along the top of the screen, and an increased focus on the inline embedding of multimedia content. Critics considered the redesign an attempt to emulate features and experiences found in mobile apps and third-party Twitter clients.[370][371][372][373]

The new layout was revised in 2011 with a focus on continuity with the web and mobile versions, introducing "Connect" (interactions with other users such as replies) and "Discover" (further information regarding trending topics and news headlines) tabs, an updated profile design, and moving all content to the right pane (leaving the left pane dedicated to functions and the trending topics list).[374] In March 2012, Twitter became available in Arabic, Farsi, Hebrew and Urdu, the first right-to-left language versions of the site. About 13,000 volunteers helped with translating the menu options.[375] In August 2012, beta support for Basque, Czech and Greek was added, making the site available in 33 different languages.[376]

In September 2012, a new layout for profiles was introduced, with larger "covers" that could be customized with a custom header image, and a display of the user's recent photos posted.[377] The "Discover" tab was discontinued in April 2015,[378] and was succeeded on the mobile app by an "Explore" tab—which features trending topics and moments.[379]

In September 2018, Twitter began to migrate selected web users to its progressive web app (based on its Twitter Lite experience for mobile web), reducing the interface to two columns. Migrations to this iteration of Twitter increased in April 2019, with some users receiving it with a modified layout.[380][381]

In July 2019, Twitter officially released this redesign, with no further option to opt-out while logged in. It is designed to further-unify Twitter's user experience between the web and mobile application versions, adopting a three-column layout with a sidebar containing links to common areas (including "Explore" that has been merged with the search page) which previously appeared in a horizontal top bar, profile elements such as picture and header images and biography texts merged into the same column as the timeline, and features from the mobile version (such as multi-account support, and an opt-out for the "top tweets" mode on the timeline).[382][383]

Outages

During an outage, Twitter users were at one time shown the "fail whale" error message image created by Yiying Lu,[384] illustrating eight orange birds using a net to hoist a whale from the ocean captioned "Too many tweets! Please wait a moment and try again."[385] Web designer and Twitter user Jen Simmons was the first to coin the term "fail whale" in a September 2007 tweet.[386][387] In a November 2013 WIRED interview Chris Fry, VP of Engineering at that time, noted that the company had taken the "fail whale" out of production as the platform was now more stable.[388]
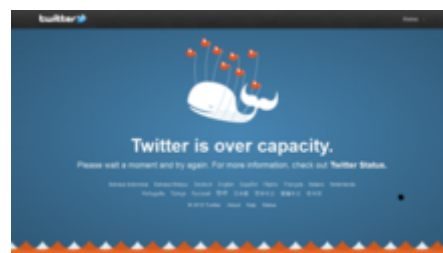
The Twitter fail whale error message

Twitter had approximately ninety-eight percent uptime in 2007 (or about six full days of downtime).[389] The downtime was particularly noticeable during events popular with the technology industry such as the 2008 Macworld Conference & Expo keynote address.[390][391]

User accounts

Privacy, security and harassment

Twitter messages are public, but users can also send private "direct messages".[392] Information about who has chosen to follow an account and who a user has chosen to follow is also public, though accounts can be changed to "protected" which limits this information (and all tweets) to approved followers.[393] Twitter collects personally identifiable information about its users and shares it with third parties as specified in its privacy policy. The service also reserves the right to sell this information as an asset if the company changes hands.[394] While Twitter displays no advertising, advertisers can target users based on their history of tweets and may quote tweets in ads[395] directed specifically to the user.

A security vulnerability was reported on April 7, 2007, by Nitesh Dhanjani and Rujith. Since Twitter used the phone number of the sender of an SMS message as authentication, malicious users could update someone else's status page by using SMS spoofing.[396] The vulnerability could be used if the spoofer knew the phone number registered to their victim's account. Within a few weeks of this discovery, Twitter introduced an optional personal identification number (PIN) that its users could use to authenticate their SMS-originating messages.[397]

On January 5, 2009, 33 high-profile Twitter accounts were compromised after a Twitter administrator's password was guessed by a dictionary attack.[398] Some of the compromised accounts sent falsified tweets, including drug-related messages.[399]

Twitter launched the beta version of their "Verified Accounts" service on June 11, 2009, allowing people with public profiles to announce their account name. The home pages of these accounts display a badge indicating their status.[400]

In May 2010, a bug was discovered by İnci Sözlük that could allow a Twitter user to force others to follow them without the other users' consent or knowledge. For example, comedian Conan O'Brien's account, which had been set to follow only one person, was changed to receive nearly 200 malicious subscriptions.[401]

In response to Twitter's security breaches, the United States Federal Trade Commission (FTC) brought charges against the service; the charges were settled on June 24, 2010. This was the first time the FTC had taken action against a social network for security lapses. The settlement requires Twitter to take a number of steps to secure users' private information, including maintenance of a "comprehensive information security program" to be independently audited biannually.[402]

On December 14, 2010, the United States Department of Justice issued a subpoena directing Twitter to provide information for accounts registered to or associated with WikiLeaks.[403] Twitter decided to notify its users and said in a statement, "... it's our policy to notify users about law enforcement and governmental requests for their information, unless we are prevented by law from doing so."[392]

A "MouseOver" exploit occurred on September 21, 2010, when an XSS Worm became active on Twitter. When a user held the mouse cursor over blacked-out parts of a tweet, the worm within the script would automatically open links and re-post itself on the reader's account.[404] The exploit was then re-used to post pop-up ads and links to pornographic sites. The origin of the worm is unclear, but Pearce H. Delphin (known on Twitter as @zzap) and a Scandinavian developer, Magnus Holm, both claim to have modified a related exploit found by another user (possibly Masato Kinugawa) who was using it to create colored Tweets.[405] Kinugawa, a Japanese developer, reported the XSS vulnerability to Twitter on August 14. Later, when he found it was exploitable again, he created the account 'RainbowTwtr' and used it to post colored messages.[405] Delphin says he exposed the security flaw by tweeting a JavaScript function for "onMouseOver",[405] and Holm later created and posted the XSS Worm that automatically re-tweeted itself.[404] Security firm Sophos reported that the virus was spread by people doing it for "fun and games",

but noted it could be exploited by cybercriminals.[404] Twitter issued a statement on their status blog at 13:50 UTC that "The exploit is fully patched."[404][406] Twitter representative Carolyn Penner said no charges would be pressed.[407]

In May 2011, a claimant known as "CTB" in the case of *CTB v Twitter Inc.* took action against Twitter at the High Court of Justice of England and Wales,[408] requesting that the company release details of account holders. This followed gossip posted on Twitter about professional footballer Ryan Giggs's private life. This led to the 2011 British privacy injunctions controversy and the "super-injunction".[409] Tony Wang, the head of Twitter in Europe, said that people who do "bad things" on the site would need to defend themselves under the laws of their own jurisdiction in the event of controversy and that the site would hand over information about users to the authorities when it was legally required to do so.[410] He also suggested that Twitter would accede to a UK court order to divulge names of users responsible for "illegal activity" on the site.[411]

Twitter acquired Dasient, a startup that offers malware protection for businesses, in January 2012. Twitter announced plans to use Dasient to help remove hateful advertisers on the website.[412] Twitter also offered a feature which would allow tweets to be removed selectively by country, before deleted tweets used to be removed in all countries.[413][414] The first use of the policy was to block the account of German neo-Nazi group Besseres Hannover on October 18, 2012.[415] The policy was used again the following day to remove anti-Semitic French tweets with the hashtag #unbonjuif ("a good Jew").[416] In February 2012, a third-party public-key encryption app (written in Python and partially funded by a grant from the Shuttleworth Foundation[417]) for private messaging in Twitter, CrypTweet, was released.[418] A month later Twitter announced it would implement the "Do Not Track" privacy option, a cookie-blocking feature found in Mozilla's Firefox browser. The "Do Not Track" feature works only on sites that have agreed to the service.[419]

In August 2012, it was reported that there was a market in fake Twitter followers used to increase politicians' and celebrities' apparent popularity.[420] The black market for the fake followers, known as "bots", has been linked to "nearly every politically linked account from the White House to Congress to the 2016 campaign trail". In June 2014, *Politico* analyzed Twitter handles with the highest rates of fake followers: U.S. President Barack Obama with 46.8 percent, Democratic National Committee Chairwoman Debbie Wasserman Schultz with 35.1 percent, and Senator John McCain with 23.6 percent. The culprits working to generate the fake followers, or "bots", included campaign workers or friends of political candidates. One site offered 1,000 fake followers for $20. The people creating the "bots" were often from Eastern Europe and Asia.[421][422] In 2013, two Italian researchers calculated 10 percent of total accounts on Twitter were "bots" although other estimates have placed the figure even higher.[423]

After a number of high-profile hacks of official accounts, including those of the Associated Press and *The Guardian*,[424] in April 2013, Twitter announced a two-factor login verification as an added measure against hacking.[425] In August 2013, Twitter announced plans to introduce a "report abuse" button for all versions of the site following uproar, including a petition with 100,000 signatures, over Tweets that included rape and death threats to historian Mary Beard, feminist campaigner Caroline Criado-Perez and the member of parliament Stella Creasy.[426][427][428] Followed the sharing of images showing the killing of American journalist James Foley in 2014, Twitter said that in certain cases it would delete pictures of people who had died after requests from family members and "authorized individuals".[429][430]

Twitter announced new reporting and blocking policies in December 2014,[431][432][433][434] including a blocking mechanism devised by Randi Harper, a target of GamerGate.[435][436][437] In February 2015, CEO Dick Costolo said he was 'frankly ashamed' at how poorly Twitter handled trolling and abuse, and admitted Twitter had lost users as a result.[438]

In 2015, following updated terms of service and privacy policy, Twitter users outside the United States were legally served by the Ireland-based Twitter International Company instead of Twitter, Inc. The change made these users subject to Irish and European Union data protection laws[439]

In 2016, Twitter announced the creation of the Twitter Trust & Safety Council to help "ensure that people feel safe expressing themselves on Twitter." The council's inaugural members included 50 organizations and individuals.[440]

On May 5, 2018, Twitter sent out an update/mail to every customer regarding a bug that stored passwords unmasked in an internal log. According to them the investigation showed no indications of breach or misuse but recommended everyone to change their password anyway.[441]

On May 13, 2019, Twitter disclosed that they had discovered a bug that accidentally shared location data from iOS devices to an advertiser. They assured that the data was not retained and that the bug was fixed.[442][443][444]

On December 20, 2019, Twitter fixed a security vulnerability in its Android app that could allow a hacker to take over a user's account and send tweets or direct messages as well as see private account info.[445][446]

The 2020 Democratic presidential candidate Bernie Sanders has faced criticism for the behavior of some of his supporters online but has deflected such criticism, suggesting that "Russians" were impersonating people claiming to be "Bernie Bro" supporters.[447] Twitter rejected Sanders' suggestion that Russia could be responsible for the bad reputation of his supporters. A Twitter spokesperson told CNBC: "Using technology and human review in concert, we proactively monitor Twitter to identify attempts at platform manipulation and mitigate them. As is standard, if we have reasonable evidence of state-backed information operations, we'll disclose them following our thorough investigation to our public archive — the largest of its kind in the industry."[448]

On April 8, 2020, Twitter announced that users outside of the European Economic Area or United Kingdom (thus subject to GDPR) will no longer be allowed to opt out of sharing "mobile app advertising measurements" to Twitter third-party partners.[449]

On October 9, 2020, Twitter took additional steps to counter misleading campaigns ahead of the 2020 US Election. Twitter's new temporary update encouraged users to "add their own commentary" before retweeting a tweet, by making 'quoting tweet' a mandatory feature instead of optional. The social network giant aimed at generating context and encouraging the circulation of more thoughtful content.[450]

Suspect and contested accounts

In January 2016, Twitter was sued by the widow of a U.S. man killed in the 2015 Amman shooting attack, claiming that allowing the Islamic State of Iraq and the Levant (ISIL) to continually use the platform, including direct messages in particular,[451] constituted the provision of material support to a terrorist organization, which is illegal under U.S. federal law. Twitter disputed the claim, stating that "violent threats and the promotion of terrorism deserve no place on Twitter and, like other social networks, our rules make that clear."[452][453] The lawsuit was dismissed by the United States District Court for the Northern District of California, upholding the Section 230 safe harbor, which dictates that the operators of an interactive computer service are not liable for the content published by its users.[453][454] The lawsuit was revised in August 2016, providing comparisons to other telecommunications devices.[451]

Twitter suspended multiple parody accounts that satirized Russian politics in May 2016, sparking protests and raising questions about where the company stands on freedom of speech.[455] Following public outcry, Twitter restored the accounts the next day without explaining why the accounts had been suspended.[456] The same day, Twitter, along with Facebook, Google, and Microsoft, jointly agreed to a European Union code of conduct obligating them to review "[the] majority of valid notifications for removal of illegal hate speech" posted on their services within 24 hours.[457] In August 2016, Twitter stated that it had banned 235,000 accounts over the past six months, bringing the overall number of suspended accounts to 360,000 accounts in the past year, for violating policies banning use of the platform to promote extremism.[458]

On May 10, 2019, Twitter announced that they suspended 166,513 accounts for promoting terrorism in the July–December 2018 period, stating there was a steady decrease in terrorist groups trying to use the platform owing to its "zero-tolerance policy enforcement". According to Vijaya Gadde, Legal, Policy and Trust and Safety Lead at Twitter, there was a reduction of 19% terror related tweets from the previous reporting period (January–June 2018).[459][460][461][462][463]

Similarly, Twitter banned 7,000 accounts and limited 150,000 more that had ties to QAnon on July 21, 2020. The bans and limits came after QAnon-related accounts began harassing other users through practices of swarming or brigading, coordinated attacks on these individuals through multiple accounts in the weeks prior. Those accounts limited by Twitter will not appear in searches nor be promoted in other Twitter functions. Twitter said they will continue to ban or limit accounts as necessary, with their support account stating "We will permanently suspend accounts Tweeting about these topics that we know are engaged in violations of our multi-account policy, coordinating abuse around individual victims, or are attempting to evade a previous suspension".[464]

As of July 30, 2020, Twitter will block URLs in tweets that point to external websites that contain malicious content (such as malware and phishing content) as well or hate speech, speech encouraging violence, terrorism, child sexual exploitation, breaches of privacy, and other similar content that is already banned as part of the content of tweets on the site. Users that frequently point to such sites may have their accounts suspended. Twitter said this was to bring their policy in line to prevent users from bypassing their tweet content restrictions by simply linking to the banned content.[465]

Following the onset of protests by Donald Trump's supporters across the US in January 2021, Twitter suspended more than 70,000 accounts, stating that they shared "harmful QAnon-associated content" at a large scale, and were "dedicated to the propagation of this conspiracy theory across the service". The rioters that broke into US Capitol Hill included a large amount of QAnon followers.[466]

Malicious and fake accounts

Between January and late July 2017, Twitter had identified and shut down over 7,000 fake accounts created by Iranian influence operations.[467]

In May 2018, in response to scrutiny over the misuse of Twitter by those seeking to maliciously influence elections, Twitter announced that it would partner with the nonprofit organization Ballotpedia to add special labels verifying the authenticity of political candidates running for election in the U.S.[468][469]

In December 2019, Twitter removed 5,929 accounts for violating their manipulation policies. The company investigated and attributed these accounts to a single state-run information operation, which originated in Saudi Arabia. The accounts were reported to be a part of a larger group of 88,000 accounts engaged in spammy behavior. However, Twitter did not disclose all of them as some could possibly be legitimate accounts taken over through hacking.[470]

In March 2021, Twitter suspended around 3,500 fake accounts that were running a campaign to influence the American audience, after the US intelligence officials concluded that the assassination of *The Washington Post* journalist, Jamal Khashoggi was "approved" by the Saudi Crown Prince Mohammed bin Salman. These Saudi accounts were working in two languages, English and Arabic, to influence public opinion around the issue. Many accounts commented directly on the tweets of US-based media houses, including *The Post*, *CNN*, *CBS News* and *The Los Angeles Times*. Twitter was unable to identify the source of the influence campaign.[471]

Twitter bots

A Twitter bot is a computer program that automatically posts on Twitter. They are programmed to tweet, retweet, and follow other accounts. According to a recent report, there were 20 million, fewer than 5%, of accounts on Twitter that were fraudulent in 2013. These fake accounts are often used to build large follower populations quickly for advertisers, while others respond to tweets that include a certain word or phrase.[472] Twitter's wide-open application programming interface and cloud servers make it possible for twitterbots' existence within the social networking site.[473]

Effects

Twitterbots are capable of influencing public opinion about culture, products, and political agendas by automatically generating mass amounts of tweets through imitating human communication.[474] *The New York Times* states, "They have sleep-wake cycles so their fakery is more convincing, making them less prone to repetitive patterns that flag them as mere programs."[475] The tweets generated vary anywhere from a simple automated response to content creation and information sharing, all of which depends on the intention of the person purchasing or creating the bot. The social implications these Twitterbots potentially have on human perception are sizeable according to a study published by the ScienceDirect Journal. Looking at the Computers as Social Actors (CASA) paradigm, the journal notes, "people exhibit remarkable social reactions to computers and other media, treating them as if they were real people or real places." The study concluded that Twitterbots were viewed as credible and competent in communication and interaction making them suitable for transmitting information in the social media sphere.[476] While technological advances have enabled the ability of successful Human-Computer Interaction, the implications are questioned due to the appearance of both benign and malicious bots in the Twitter realm. Benign Twitterbots may generate creative content and relevant product updates whereas malicious bots can make unpopular people seem popular, push irrelevant products on users and spread misinformation, spam or slander.[477]

In addition to content-generating bots, users can purchase followers, favorites, retweets, and comments on various websites that cater to expanding a user's image through the accumulation of followers. With more followers, users' profiles gain more attention, thus increasing their popularity.[478] Generating Web traffic is a valuable commodity for both individuals and businesses because it indicates notability.[479] With Twitterbots, users are able to create the illusion of "buzz" on their site by obtaining followers from services such as Swenzy and underground suppliers who operate bot farms or click farms.[474][479] The companies that facilitate this service create fake Twitter accounts that follow a number of people, some of these Twitter accounts may even post fake tweets to make it seem like they are real. This practice of obtaining mass amounts of twitterbots as followers is not permitted on Twitter.[480] The emphasis on followers and likes as a measure of social capital has urged people to extend their circle to weak and latent ties to promote the idea of popularity for celebrities, politicians, musicians, public figures, and companies alike.[481] According to *The New York Times*, bots amass significant influence and have been noted to sway elections, influence the stock market, public appeal, and attack governments.[482]

Developers

Twitter is recognized for having one of the most open and powerful developer APIs of any major technology company.[483] Developer interest in Twitter began immediately following its launch, prompting the company to release the first version of its public API in September 2006.[484] The API quickly became iconic as a reference implementation for public REST APIs and is widely cited in programming tutorials.[485]

From 2006 until 2010, Twitter's developer platform experienced strong growth and a highly favorable reputation. Developers built upon the public API to create the first Twitter mobile phone clients as well as the first URL shortener. Between 2010 and 2012, however, Twitter made a number of decisions that were received unfavorably by the developer community.[486] In 2010, Twitter mandated that all developers adopt OAuth authentication with just 9 weeks of notice.[487] Later that year, Twitter launched its own URL shortener, in direct competition with some of its most well-known 3rd-party developers.[488] And in 2012, Twitter introduced strict usage limits for its API, "completely crippling" some developers.[489] While these moves successfully increased the stability and security of the service, they were broadly perceived as hostile to developers, causing them to lose trust in the platform.[490]

In an effort to reset its relationship with developers, Twitter acquired Crashlytics on January 28, 2013, for over US$100 million, its largest acquisition to date.[491] Twitter committed to continue supporting and expanding the service.[492]

In October 2014, Twitter announced Fabric, a suite of mobile developer tools built around Crashlytics.[493] Fabric brought together Crashlytics, Answers (mobile app analytics), Beta (mobile app distribution), Digits (mobile app identity and authentication services), MoPub, and TwitterKit (login with Twitter and Tweet display functionality) into a single, modular SDK, allowing developers to pick and choose which features they needed while guaranteeing ease of installation and compatibility. By building Fabric on top of Crashlytics, Twitter was able to take advantage of Crashlytics' large adoption and device footprint to rapidly scale usage of MoPub and TwitterKit. Fabric reached active distribution across 1 billion mobile devices just 8 months after its launch.[494]

In early 2016, Twitter announced that Fabric was installed on more than 2 billion active devices and used by more than 225,000 developers. Fabric is recognized as the #1 most popular crash reporting and also the #1 mobile analytics solution among the top 200 iOS apps, beating out Google Analytics, Flurry, and MixPanel.[495][496]

Innovators patent agreement

On April 17, 2012, Twitter announced it would implement an "Innovators Patent Agreement" which would obligate Twitter to only use its patents for defensive purposes. The agreement went into effect in 2012.[497]

Open source

Twitter has a history of both using and releasing open-source software while overcoming technical challenges of their service.[498] A page in their developer documentation thanks dozens of open-source projects which they have used, from revision control software like Git to programming languages such as Ruby and Scala.[499] Software released as open source by the company includes the Gizzard Scala framework for creating distributed datastores, the distributed graph database FlockDB, the Finagle library

for building asynchronous RPC servers and clients, the TwUI user interface framework for iOS, and the Bower client-side package manager.[500] The popular Bootstrap frontend framework was also started at Twitter and is 10th most popular repository on GitHub.[501]

Society

Usage

Protesters

Twitter has been used for a variety of purposes in many industries and scenarios. For example, it has been used to organize protests, sometimes referred to as "Twitter Revolutions",[503] which include the protests over the 2009 Moldovan election, the 2009 student protests in Austria, the 2009 Gaza–Israel conflict, the 2009 Iranian green revolution, the 2010 Toronto G20 protests, the 2010 Bolivarian Revolution, the 2010 Stuttgart21 protests in Germany, the 2011 Egyptian Revolution, 2011 England riots, the 2011 United States Occupy movement, the 2011 anti-austerity movement in Spain, the 2011 Aganaktismenoi movements in Greece, the 2011 demonstration in Rome, the 2011 Wisconsin labor protests, the 2012 Gaza–Israel conflict, the 2013 protests in Brazil, and the 2013 Gezi Park protests in Turkey.[504] A result of the Iranian election protests saw the government of Iran block Twitter in censorship.[505]

Dorsey (left) said after a Twitter Town Hall with Barack Obama held in July 2011, that Twitter received over 110,000 #AskObama tweets.[502]

The service is also used as a form of civil disobedience: In 2010, users expressed outrage over the Twitter Joke Trial by copying a controversial joke about bombing an airport and attaching the hashtag #IAmSpartacus, a reference to the film *Spartacus* (1960) and a sign of solidarity and support to a man controversially prosecuted after posting a tweet joking about bombing an airport if they canceled his flight. #IAmSpartacus became the number one trending topic on Twitter worldwide.[506] Another case of civil disobedience happened in the 2011 British privacy injunction debate, where several celebrities who had taken out anonymized injunctions were identified by thousands of users in protest to traditional journalism being censored.[507]

During the Arab Spring in early 2011, the number of hashtags mentioning the uprisings in Tunisia and Egypt increased.[508] A study by the Dubai School of Government found that only 0.26% of the Egyptian population, 0.1% of the Tunisian population and 0.04% of the Syrian population are active on Twitter.[509]

Governments

According to documents leaked by Edward Snowden and published in July 2014, the United Kingdom's GCHQ has a tool named BIRDSONG for "automated posting of Twitter updates", and a tool named BIRDSTRIKE for "Twitter monitoring and profile collection".[510][511]

During the 2019–20 Hong Kong protests, Twitter suspended a core group of 1,000 "fake" accounts and an associated network of 200,000 accounts for operating a disinformation campaign that was linked to the Chinese government. In their announcement, Twitter released two data sets detailing the core group's account activity.[512][513][514] Geng Shuang, the spokesperson of the Chinese Ministry of Foreign Affairs, did not comment on the suspensions but suggested that the activity could be attributed to overseas Chinese citizens.[515][516]

On June 12, 2020, Twitter suspended over 7,000 accounts from Turkey because those accounts were fake profiles, designed to support the Turkish president and were managed by a central authority. Turkey's communication director said that the decision was illogical, biased and politically motivated.[517]

In May 2021, Twitter labeled one of the tweets by Sambit Patra, a spokesman of the local ruling party BJP in India, as "manipulated media", leading to Twitter's offices in Delhi and Gurgaon being raided by the local police.[518] Twitter issued a statement, calling the police visit "a form of intimidation".[519] Later, the Indian government released a statement in July 2021 claiming Twitter has lost its liability protection concerning user-generated content. This was brought on by Twitter's failure to comply with the new IT rules introduced in 2021 with a filing stating that the company failed to appoint executives to govern user content on the platform.[520] Twitter stated to India's government in August 2021 that they have appointed permanent executives and staff to provide for compliance to these new IT rules.[521]

Impact

Instant, short, and frequent communication

In May 2008, *The Wall Street Journal* wrote that social networking services such as Twitter "elicit mixed feelings in the technology-savvy people who have been their early adopters. Fans say they are a good way to keep in touch with busy friends. But some users are starting to feel *too* connected, as they grapple with check-in messages at odd hours, higher cellphone bills and the need to tell acquaintances to stop announcing what they're having for dinner."[522] The following year, John C. Dvorak described Twitter as "the new CB radio".[523]

Emergency use

A practical use for Twitter's real-time functionality is as an effective *de facto* emergency communication system for breaking news. It was neither intended nor designed for high-performance communication, but the idea that it could be used for emergency communication was not lost on the creators, who knew that the service could have wide-reaching effects early on when the company used it to communicate during earthquakes.[524]

Another practical use that is being studied is Twitter's ability to track epidemics and how they spread.[525]

Additionally Twitter serves as a real-time sensor for natural disasters such as bush fires and earthquakes.[526][527]

Education

Twitter has been adopted as a communication and learning tool in educational and research[528] settings mostly in colleges and universities.[529][530] It has been used as a backchannel to promote student interactions, especially in large-lecture courses.[531] Research has found that using Twitter in college courses helps students communicate with each other and faculty, promotes informal learning, allows shy students a forum for increased participation, increases student engagement, and improves overall course grades.[532][533][534]

Twitter has been an increasingly growing in the field of education, as an effective tool that can be used to encourage learning and idea, or knowledge sharing, in and outside the classroom.[535] By using or creating hashtags, students and educators are able to communicate under specific categories of their choice, to enhance and promote education. A broad example of a hashtag used in education is "edchat", to

communicate with other teachers, and people using that hashtag. Once teachers find someone they want to talk to, they can either direct message the person, or narrow down the hashtag to make the topic of the conversation more specific using hashtags for scichat (science), engchat (English), sschat (social studies).[535]

In a 2011 study, researchers found that young peoples use of Twitter helped to improve relationships with teachers, encourage interactive learning, and ultimately lead to high grades.[535] In the same study it was found that out of a group of 158 educators, 92% agreed that the reason they use Twitter is because of how user friendly it is,[535] another 86% agreed that they started and continue using Twitter because of how easy it is to learn, and finally,[535] 93% said they use Twitter because it is free. People found that sifting through large amounts of data is challenging, however, with the simple nature of Twitter large amount of information became easily accessible.[536] Much of this simplicity comes from the use of the hashtag, and the intuitive nature of how Twitter as a microblogging site operates.[536] These features help to promote education outside the classroom in a global setting where students and educators are easily able to create, connect, and share knowledge. This ultimately promotes growth and learning among students and educators, not just in the classroom, but virtually and around the world.

Public figures

Tech writer Bruce Sterling commented in 2007 that using Twitter for "literate communication" is "about as likely as firing up a CB radio and hearing some guy recite the *Iliad*".[537] In September 2008, the journalist Clive Thompson mused in a *New York Times Magazine* editorial that the service had expanded narcissism into "a new, supermetabolic extreme—the ultimate expression of a generation of celebrity-addled youths who believe their every utterance is fascinating and ought to be shared with the world".[538] One of the earliest documented forms of celebrity-related Twitter-like disclosures dates from 1980, when real estate mogul William Desmond Ryan made round-the-clock press releases about his relationship with comedian Phyllis Diller, even revealing what she was making him for dinner on a nightly basis.[539] Conversely, *Vancouver Sun* columnist Steve Dotto opined that part of Twitter's appeal is the challenge of trying to publish such messages in tight constraints,[540] and Jonathan Zittrain, professor of Internet law at Harvard Law School, said that "the qualities that make Twitter seem inane and half-baked are what makes it so powerful."[541] In that same vein, and with Sigmund Freud in mind, political communications expert Matthew Auer observed that well-crafted tweets by public figures often deliberately mix trivial and serious information so as to appeal to all three parts of the reader's personality: the id, ego, and superego.[542]

The poets Mira Gonzalez and Tao Lin published a book titled *Selected Tweets* featuring selections of their tweets over some eight years. The book was designed to look like a small bible.[543]

The novelist Rick Moody wrote a short story for Electric Literature called "Some Contemporary Characters," composed entirely of tweets.[544]

In 2009, Nielsen Online reported that Twitter had a user-retention rate of forty percent. Many people stop using the service after a month; therefore the site may potentially reach only about ten percent of all Internet users.[545] In 2009, Twitter won the "Breakout of the Year" Webby Award.[546][547] During a February 2009 discussion on National Public Radio's *Weekend Edition*, the journalist Daniel Schorr stated that Twitter accounts of events lacked rigorous fact-checking and other editorial improvements. In response, Andy Carvin gave Schorr two examples of breaking news stories that played out on Twitter and said users wanted first-hand accounts and sometimes debunked stories.[548] On November 29, 2009, Twitter was named the Word of the Year by the Global Language Monitor, declaring it "a new form of social interaction".[549] *Time* magazine acknowledged its growing level of influence in its 2010 Time 100; to determine the influence of people, it used a formula based on famous social networking sites, Twitter and Facebook. The list ranges from Barack Obama and Oprah Winfrey to Lady Gaga and Ashton

Kutcher.[550][551] The U.S. government, seeing social media's role in the 2010 Arab Spring revolts, covertly developed a Cuban alternative to Twitter called ZunZuneo as part of a long-term strategy to "stir unrest". The service was active from 2010 to 2012.[552]

During the 2012 Summer Olympics opening ceremony, in which he appeared at the London Olympic Stadium in person,[553] Sir Tim Berners-Lee, the founder of the World Wide Web, tweeted "This is for everyone",[554] which was instantly spelled out in LCD lights attached to the chairs of the 80,000 people in the audience.[553]

Many commentators have suggested that Twitter radically changed the format of reporting due to instant, short, and frequent communication.[555][556] According to *The Atlantic* writers Benjamin M. Reilly and Robinson Meyer, Twitter has an outsized impact on the public discourse and media. "Something happens on Twitter; celebrities, politicians and journalists talk about it, and it's circulated to a wider audience by Twitter's algorithms; journalists write about the dustup." This can lead to an argument on a Twitter feed looking like a "debate roiling the country... regular people are left with a confused, agitated view of our current political discourse".[557] In a 2018 article in the *Columbia Journalism Review*, Matthew Ingram argued much the same about Twitter's "oversized role" and that it promotes immediacy over newsworthiness.[558] In some cases, inauthentic and provocative tweets were taken up as common opinion in mainstream articles. Writers in several outlets unintentionally cited the opinions of Russian Internet Research Agency-affiliated accounts.[558][559]

World leaders

World leaders and their diplomats have taken note of Twitter's rapid expansion and have been increasingly utilizing Twitter diplomacy, the use of Twitter to engage with foreign publics and their own citizens. US Ambassador to Russia, Michael A. McFaul has been attributed as a pioneer of international Twitter diplomacy. He used Twitter after becoming ambassador in 2011, posting in English and Russian.[560] On October 24, 2014, Queen Elizabeth II sent her first tweet to mark the opening of the London Science Museum's Information

Donald Trump's twitter post

Age exhibition.[561] A 2013 study by website Twiplomacy found that 153 of the 193 countries represented at the United Nations had established government Twitter accounts.[562] The same study also found that those accounts amounted to 505 Twitter handles used by world leaders and their foreign ministers, with their tweets able to reach a combined audience of over 106 million followers.[562]

According to an analysis of accounts, the heads of state of 125 countries and 139 other leading politicians have Twitter accounts that have between them sent more than 350,000 tweets and have almost 52 million followers. However, only 30 of these do their own tweeting, more than 80 do not subscribe to other politicians and many do not follow any accounts.[563]

Donald Trump has used Twitter as a method of providing ideas and information during his presidential campaign in 2016, the transitional period and as US President. A study performed at Rose-Hulman Institute of Technology showed his tweets from these different time periods and through analysis of his tweets, the professors found that President Trump uses a mode called "forensic mode" the most often in his tweets. This is described as a quick reactive usage, as they found he often used Twitter to show his judgment of the events that occurred regarding both his allies and his enemies.[564] After his election to the presidency he tweeted this "forensic-style" tweet, "Just had a very open and successful election. Now professional protesters, incited by the media, are protesting. Very Unfair!".[565]

In a study done at New York University in 2015, an analysis and comparison of the Twitter accounts of Donald Trump, Jeb Bush, Bernie Sanders, and Hillary Clinton, found observations showing the goals of each candidate's Twitter during their respective primary elections. Some comparisons that were made were the use of Aristotle's theory of Rhetoric. The research found that Donald Trump used pathos, the appeal to emotion, in his rhetoric; Bernie Sanders tended to use ethos and logos for his Twitter; Hillary Clinton tended to use logos and pathos to try to convey her values, and Jeb Bush shows that he uses a mix of all three on his account. The study also looked at the media response to the tweets during the election. The study found that the tweets became more persuasive for the candidates if the media put the tweets in front of more viewers, versus less powerful if they were only visible to those already on Twitter. In that way, presidential candidates who had their tweets covered more in the news were able to get their message to more potential voters.[566]

Religion

More than twenty Roman Catholic cardinals manage active Twitter accounts,[567] nine of whom were cardinal electors for the 2013 Papal conclave.[568] Pope Benedict XVI's Twitter account was set up in 2012. As of April 2016, his successor, Pope Francis, has 9.06 million followers of his Twitter account (@Pontifex).[569]

Censorship and moderation

Twitter is banned completely in Iran, China and North Korea,[570] and has been intermittently blocked in numerous countries including Egypt, Iraq, Nigeria, Turkey, Venezuela and Turkmenistan on different bases.[571][572][573][574][575][576] In 2016, Twitter cooperated with the Israeli government to remove certain content originating outside Israel from tweets seen in Israel.[577] In the 11th biannual transparency report published on September 19, 2017, Twitter said that Turkey was the first among countries where about 90 percent of removal requests came from, followed by Russia, France and Germany.[578] Twitter stated that between July 1 and December 31, 2018, "We received legal demands relating to 27,283 accounts from 47 different countries, including Bulgaria, Kyrgyzstan, Macedonia, and Slovenia for the first time."[579] As part of evidence to a US Senate Enquiry, the company admitted that their systems "detected and hid" several hundred thousand tweets relating to the 2016 Democratic National Committee email leak.[580] During the curfew in Jammu and Kashmir after revocation of its autonomous status on August 5, 2019, the Indian government approached Twitter to block accounts accused of spreading anti-India content;[581] by October 25, nearly one million tweets had been removed as a result.[582]

Hashtag suppression

After claims in the media that the hashtags #wikileaks and #occupywallstreet were being censored because they did not show up on the site's list of trending topics, Twitter responded by stating that it does not censor hashtags unless they contain obscenities.[583][584][585]

Trust & Safety Council

The announcement of Twitter's "Trust & Safety Council" was met with objection from parts of its userbase.[586][587] Critics accused the member organizations of being heavily skewed towards "the restriction of hate speech" and a *Reason* article expressed concern that "there's not a single uncompromising anti-censorship figure or group on the list".[588][589]

Moderation of tweets

Twitter removed more than 88,000 propaganda accounts linked to Saudi Arabia.[590] Twitter removed tweets from accounts associated with the Russian Internet Research Agency that had tried to influence public opinion during and after the 2016 election.[558][559] In June 2020, Twitter also removed 175,000 propaganda accounts that were spreading biased political narratives for the Communist Party of China, the United Russia Party, or Turkey's President Erdogan, identified based on centralized behavior.[591][592] Twitter also removed accounts linked to the governments of Armenia, Egypt, Cuba, Serbia, Honduras, Indonesia and Iran.[593][594][595] Twitter suspended Pakistani accounts tied to government officials for posting tweets about the Kashmir conflict between India and Pakistan.[596] In February 2021, Twitter removed accounts in India that criticized Prime Minister Narendra Modi's government for its conduct during Indian farmers' protests in 2020–2021.[597]

At the start of the 2020 COVID-19 pandemic, numerous tweets reported false medical information related to the pandemic. Twitter announced a new policy in which they would label tweets containing misinformation going forward.[105] In April 2020, Twitter removed accounts which defended President Rodrigo Duterte's response to the spread of COVID-19 in the Philippines.[598]

As part of its means to moderate misinformation, Twitter launched its crowd-sourced Birdwatch program in January 2021. Trusted users in the program will have the ability to monitor tweets and replies that may include misinformation and countermessages providing fact-checking as to have Twitter tag these messages appropriately from the Birdwatch community.[599]

Logo of Birdwatch, a planned Twitter program

Moderation of President Donald Trump

Donald Trump had joined Twitter in 2009, prior to his presidency. Many Twitter employees had expressed concern to the company's management about hosting Trump prior to and at the start of his presidency. Trump continued to use his personal account "@realDonaldTrump", rather than the official presidential account "@POTUS" that Twitter had arranged previously. Twitter employees remained highly skeptical of Trump's use of Twitter, particularly after the shooter in the 2019 El Paso shooting had written a manifesto that recited many of Trump's prior tweets; employees considered Trump was using Twitter as a "dog whistle". Twitter opted to eliminate all political advertising in wake of this.[600]

The two tweets on May 26, 2020, from President Trump that Twitter had marked "potentially misleading" (inserting the blue warning icon and "Get the facts..." language) that led to the executive order

After Trump had used his Twitter account on May 26, 2020, to issue a statement related to possible fraud associated with mail-in voting ahead of the upcoming 2020 primary elections. Twitter moderators used the aforementioned tools to mark Trump's tweets as "potentially misleading" and added links to a dedicated page with additional articles from other news sources on mail-in voting, the first time they had marked Trump's tweets as such.[601] Trump, who had previously alleged Twitter, and other technology companies, have an anti-conservative bias,[602] announced his intention to enact regulations to take action against Twitter. Two days later, on May 28, 2020, Trump signed "Executive Order on Preventing Online Censorship"[603] aimed to impact the protections of Section 230 of the Communications Decency Act which Twitter and other social media sites have to avoid liability for dealing with moderation of user content on their platforms.[604][605][606]

Around this time, the murder of George Floyd, an African-American, in an incident involving four white Minneapolis Police Department officers on May 25, sparked racially-driven riots in the city that turned violent by the evening of May 28. Trump tweeted his opinion on the violent protests, stating he had spoken to state governor Tim Walz about bringing National Guard forces to help calm the situation, but concluded the tweet by saying "Any difficulty and we will assume control but, when the looting starts, the shooting starts." Twitter, after internal consultation with its review boards and management, opted to add a "public interest notice"[607] to the tweet,[608] warning users it "glorified violence" and while they normally would have removed such posts in the past, they "have kept the Tweet on Twitter because it is important that the public still be able to see the Tweet given its relevance to ongoing matters of public importance."[609] Twitter users were still able to view Trump's tweet if they chose to click on it, but could not like or retweet it without their own comment.[610]

Going into the late months of the 2020 United States presidential election, Twitter continued to mark several tweets from Trump, other conservative lawmakers, and various alt- and far-right users with similar misinformation labels, or taking other actions when these tweets violated their user policy. On October 14, 2020, the *New York Post* published a story containing allegations about Hunter Biden, son of Joe Biden. Twitter and Facebook both implemented measures on their platforms to prevent sharing of the *New York Post* article, with Twitter doing so according to their Hacked Materials Policy and Facebook per a policy that "in many countries, including in the U.S., if we have signals that a piece of content is false, we temporarily reduce its distribution pending review by a third-party fact-checker."[611][612][613] Commentators from varied political backgrounds criticized the actions taken by Facebook and Twitter, arguing that they could have amplified disinformation due to the Streisand effect.[614]

After the election, in which Biden had been determined to be the winner, Trump and several of his allies continued to dispute the results through legal actions, while continuing to assert there was fraud and other inconsistencies on Twitter. Twitter continued to apply their moderation as they had done before. *The New York Times* estimated that 34% of Trump's tweets in the days after the election were flagged by Twitter.[600] Trump continued to threaten revoking Section 230 due to actions by Twitter and other social media companies by demanding Congress include its revoking in the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021.[615] Separately, new social media companies such as Parler were created to cater specifically to conservative and right-leaning voices that felt that Twitter and other social media companies were suppressing their voice.[616]

On January 6, 2021, pro-Trump protestors stormed the United States Capitol building to violently disrupt the Electoral College vote count after Trump had held a rally earlier in the day promoting the protestors to march to the Capitol and challenge the election results. During the storming, Trump had tweeted messages including a video message to try to urge calm but which continued to assert the election was fraudulent. Twitter locked down Trump's account for a twelve-hour period, preventing anyone from retweeting or replying to the tweets, and informed Trump they would restore assess if he removed three specific tweets that continued to assert election fraud and would permanently block his account should he continue to make such claims.[617] Trump complied with removing the indicated tweets by January 7.[618] However, from tweets that Trump had posted following the temporary block, Twitter permanently suspended Trump's account "due to the risk of further incitement of violence" on January 8.[619][620] Twitter pointed to two of Trump's tweets made on

@realDonaldTrump

Account suspended

Twitter suspends accounts which violate the Twitter Rules

Message displayed on the "@realDonaldTrump" account after Trump's ban on January 8, 2021

January 7 as troublesome. One of Trump's tweet stated "The 75,000,000 great American Patriots who voted for me, AMERICA FIRST, and MAKE AMERICA GREAT AGAIN, will have a GIANT VOICE
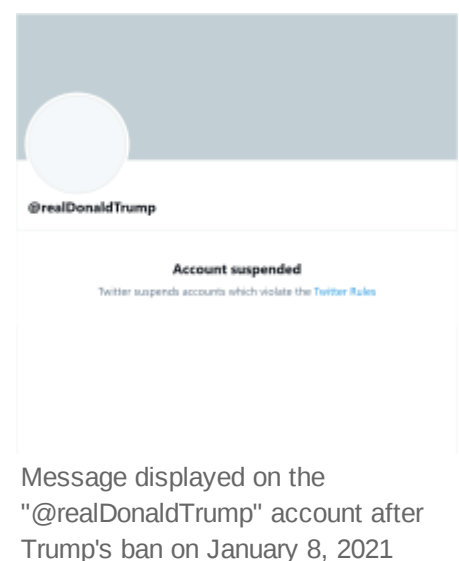
long into the future. They will not be disrespected or treated unfairly in any way, shape or form!!!", while a second indicated that he would not be attending Biden's inauguration, which Twitter took together as "likely to inspire others to replicate the violent acts that took place on January 6, 2021, and that there are multiple indicators that they are being received and understood as encouragement to do so."[619]

Twitter also proactively took steps against the "@POTUS" Twitter account, which Trump had started to use after his account was banned, blocking messages posted there as part of Trump's ban evasion.[619] Trump also attempted to use his campaign's Twitter account before it was similarly blocked.[621] Twitter's CEO Jack Dorsey and other executives had been hesitant to evoke a ban on Trump, but was pressured by employees and members of the safety team who had seen Trump's tweets creating chatter from right-wing accounts on Twitter and on right-wing social media sites like Parler.[600] In addition to banning Trump, in the following weekend Twitter subsequently banned or blocked more than 70,000 accounts that were tied to QAnon that were continuing to promote election fraud and pro-Trump conspiracy theories.[600]

Twitter's decision was criticized by free speech advocates such as the American Civil Liberties Union.[600] Chancellor of Germany Angela Merkel criticized the ban saying that "lawmakers should set the rules governing free speech and not private technology companies."[120] The president of Mexico Andrés Manuel López Obrador said that "having private companies decide who can be silenced and censored goes against freedom of speech."[622] On January 14, Twitter CEO Jack Dorsey defended banning Trump, but also said it "sets a precedent I feel is dangerous," but added "Everything we learn in this moment will better our effort, and push us to be what we are: one humanity working together."[623][600]

Trump took legal action against Twitter in October 2021 in the United States District Court for the Southern District of Florida, asserting that Twitter's ban violated his First Amendment rights as well as illegal under Florida's deplatforming law that had been passed by the state in May 2021 by blocked by a federal judge in July 2021.[624]

Fines, penalties and sanctions

Violation of campaign finance laws

In October 2020 Twitter was fined $100,000 by Washington State for violating that state's campaign finance disclosure rules. A judgement filed on October 13, 2020, found "the social media platform failed to maintain public inspection records of nearly $200,000 paid to it for political ads in violation of state law" according to Washington Attorney General Bob Ferguson.[625]

Television

Twitter is increasingly used for TV to be more interactive.[626] This effect is sometimes referred to as the second screen,[627] "virtual watercooler" or social television—the practice has been called "chatterboxing".[628] Twitter has been successfully used to encourage people to watch live TV events, such as the Oscars, the Super Bowl[629] and the MTV Video Music Awards; however this strategy has proven less effective with regularly scheduled TV shows.[630] Such direct cross-promotions have been banned from French television due to regulations against secret advertising.[631]

In December 2012, Twitter and Nielsen entered a multi-year agreement to produce social TV ratings, which are expected to be commercially available for the fall 2013 season as the Nielsen Twitter TV Rating.[632] *Advertising Age* said Twitter had become the new *TV Guide*.[633] Then in February 2013, Twitter acquired Bluefin Labs for an estimated US$50 million to $100 million. Founded in 2008 at the MIT

Media Lab, Bluefin is a data miner whose analysis tells which brands (e.g., TV shows and companies) are chatted about the most in social media.[632][634] MIT *Technology Review* said that Bluefin gives Twitter part of the US$72 billion television advertising market.[635]

In May 2013, it launched Twitter Amplify—an advertising product for media and consumer brands.[636] With Amplify, Twitter runs video highlights from major live broadcasts, with advertisers' names and messages playing before the clip.[637] In October 2013, Comcast announced that it had partnered with Twitter to implement its "See It" feature within the service, allowing posts promoting programs on selected NBCUniversal channels to contain direct links to TV Everywhere streaming to the program. On launch, the concept was limited to NBCUniversal channels and Xfinity cable television subscribers.[638]

In an attempt to compete with Twitter's leadership in TV, Facebook introduced a number of features in 2013 to drive conversation about TV including hashtags, verified profiles and embeddable posts. It also opened up new data visualization APIs for TV news and other media outlets, enabling them to search for a word and see a firehose of public posts that mention it as well as show how many people mentioned a word in both public and private posts during a set time frame, with a demographic breakdown of the age, gender, and location of these people.[639] In January 2014, Facebook announced a partnership with UK-based social TV analytics company SecondSync which saw the social network make its social TV available outside the company for the first time. Facebook struck the partnership to help marketers understand how people are using the social network to talk about topics such as TV.[640] However, Twitter responded by acquiring SecondSync and Parisian social TV firm Mesagraph three months later. These acquisitions, as well as a partnership with research company Kantar (which it had been working with to develop a suite of analytics tools for the British TV industry since August 2013) strengthened Twitter's dominance of the "second screen" – TV viewers using tablets and smartphones to share their TV experience on social media. With the additional analytic tools, Twitter was able to improve the firm's offering to advertisers, allowing them to, for instance, only promote a tweet onto the timelines of users who were watching a certain programme.[641]

By February 2014, all four major U.S. TV networks had signed up to the Amplify program, bringing a variety of premium TV content onto the social platform in the form of in-tweet real-time video clips.[642] In March 2014, ITV became the first major broadcaster in the UK to sign up to Twitter Amplify[643] and Twitter introduced one-tap video playback across its mobile apps to further enhance the consumer experience.[644]

In June 2014, Twitter acquired its Amplify partner in the U.S., SnappyTV.[645] In Europe, Twitter's Amplify partner is London-based Grabyo, which has also struck numerous deals with broadcasters and rights holders[83] to share video content across Facebook and Twitter.[646] In July 2017, Twitter announced that it would wind down SnappyTV as a separate company, and integrate its features into the Media Studio suite on Twitter.[647]

Statistics

User accounts with large follower base

As of 5 June 2021, the ten Twitter accounts with the most followers were:[648][649]

Rank	Change (monthly)	Account name	Owner	Followers (millions)	Activity	Country
1	—	@BarackObama	Barack Obama	129	44th U.S. president	USA
2	—	@justinbieber	Justin Bieber	113	Musician	CAN
3	—	@katyperry	Katy Perry	108	Musician	USA
4	—	@rihanna	Rihanna	102	Musician and businesswoman	BAR
5	—	@Cristiano	Cristiano Ronaldo	92	Footballer	POR
6	—	@taylorswift13	Taylor Swift	88	Musician	USA
7	—	@ladygaga	Lady Gaga	83	Musician and actress	USA
8	—	@ArianaGrande	Ariana Grande	83	Musician and actress	USA
9	—	@TheEllenShow	Ellen DeGeneres	78	Comedian and television hostess	USA
10	—	@YouTube	YouTube	72	Online video platform	USA

Oldest accounts

The oldest Twitter accounts are 14 accounts that became active on March 21, 2006, all belonging to Twitter employees at the time and including **@jack** (Jack Dorsey), **@biz** (Biz Stone), and **@noah** (Noah Glass).[650]

Record tweets

A selfie orchestrated by 86th Academy Awards host Ellen DeGeneres during the March 2, 2014, broadcast was at the time the most retweeted image ever.[651][652] DeGeneres said she wanted to pay homage to Meryl Streep's record 17 Oscar nominations by setting a new record with her, and invited other Oscar celebrities to join them. The resulting photo of twelve celebrities broke the previous retweet record within forty minutes, and was retweeted over 1.8 million times in the first hour.[653][654][655] By the end of the ceremony it had been retweeted over 2 million times; less than 24 hours later, it had been retweeted over 2.8 million times.[652][653] As of 18 March 2014, it has been retweeted over 3.4 million times.[652] The group selfie effort was parodied by Lego, and Matt Groening with *The Simpsons*.[656][657] It beat the previous record, 778,801, which was held by Barack Obama, following his victory in the 2012 presidential election.[655][658][659] On May 9, 2017, Ellen's record was broken by Carter Wilkerson (@carterjwm) by collecting nearly 3.5 million retweets in a little over a month.[660]

According to *Guinness World Records*, the fastest pace to a million followers was set by actor Robert Downey Jr. in 23 hours and 22 minutes in April 2014.[661] This record was later broken by Caitlyn Jenner, who joined the site on June 1, 2015, and amassed a million followers in just 4 hours and 3 minutes.

The most tweeted moment in the history of Twitter occurred on August 2, 2013; during a Japanese television airing of the Studio Ghibli film *Castle in the Sky*, fans simultaneously tweeted the word balse (バルス)—the incantation for a destruction spell used during its climax, after it was uttered in the film. There was a global peak of 143,199 tweets in one second, beating the previous record of 33,388.[662][663]

The most discussed event in Twitter history occurred on October 24, 2015; the hashtag ("#ALDubEBTamangPanahon") for *Tamang Panahon*, a live special episode of the Filipino variety show *Eat Bulaga!* at the Philippine Arena, centering on its popular on-air couple AlDub, attracted 41 million tweets.[664][665] The most-discussed sporting event in Twitter history was the 2014 FIFA World Cup semi-final between Brazil and Germany on July 8, 2014.[666]

On the day of the 2016 U.S. presidential election, Twitter proved to be the largest source of breaking news, with over 40 million tweets sent that day.[667]

See also

- Ambient awareness
- Comparison of microblogging services
- List of mergers and acquisitions by Twitter
- Timeline of social media
- Twitterature

Notes

a. It is not documented whether the parallax scrolling effect was added with the redesign in April 2014 or subsequently.

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External links

- Official website (https://twitter.com/) (Mobile (https://mobile.twitter.com/))
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- Business data for Twitter, Inc.: Google Finance (https://www.google.com/finance?q=TWTR) · Yahoo! Finance (https://finance.yahoo.com/q?s=TWTR) · Bloomberg (https://www.bloomberg.com/quote/TWTR:US) · SEC filings (https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=1418091)

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