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Getting free steam codes is possible without the use of a generator. Odds are that you are a fan of the platform that distributes digital games owned by Valve. If you want to play games on Steam for free, these 9 tried and tested
methods are the perfect way to unlock free Steam was launched in 2003, people have been searching for ways to get free games and money in their Steam wallet. There are reward sites (legitimate ones) that allow you to do tiny tasks like answer questions, play mini-games, or watch videos and earn points that you can cash
out for Steam gift cards. There are also many different quick ways to earn $200 in a day and use that money to add funds to your Steam wallet. So if you're one of the 14.5 million users that want free Steam digital wallet codes – just these nine
legit methods. Using these methods below can really help you buy Steam wallet gift cards; $25 for PayPalMistplaySteam gift cards $10 (1000 points)InboxDollarsCheck, prepaid VISA or Steam gift cards $30SwagbucksPayPal or Steam gift cards $30SwagbucksPay
cards$5RakutenPayPal or Steam gift cards$5IbottaPayPal$20UpsidePayPal$20UpsidePayPal$20UpsidePayPal$1 While no one person or complete mindless tasks. These are the apps that'll pay you real money that you can use for free Steam
codes. If you're wanting to get some free Steam codes but want to get them today then sign up for Swagbucks. They are a legit top rewards site and pay you for searching the web, shopping, discovering content online, watching videos and taking fun, top-paying surveys. You can likely earn a $50 Steam digital wallet code in a few days if you grind it
out. Plus, they offer a free $10 welcome bonus when you sign up. Simply sign up and get started today by choosing the highest paying surveys that offers you the opportunity to play games for real money for your Steam Wallet is InboxDollars. If you sign up before the end of
this month, they also give you a $5 free bonus just to give it a try. By spending just 5-10 minutes per day on this (either on your lunch break or during TV commercial breaks) you can earn and earn and
should be using this app to earn easy Steam money. So, let me preface by saying I'm not a fan of wasting my time taking boring surveys. But this one of the best ways to earn gift cards (like Steam digital wallet codes) on your phone, quickly. Survey Junkie lets you get paid for taking online surveys from brands you use every day. You can also
participate in focus groups, try new products (free stuff, yay!) and get paid to listen to new music. This is one legit survey company, and you can get started with a registration bonus here. Instead of wasting time playing games and not being productive, now you can get paid to do it - win-win! Getting paid to play games on your phone sounds like a
dream, but this new app really pays you with Steam codes to play games. It's a legit app with 41,124+ positive reviews in the Google Play Store here, and start playing free games for Steam cash rewards. Rakuten is a top cash back site that rewards you for shopping at stores with cash
back. If you do any sort of online shopping, you're bound to make some extra cash back by using this shopping portal. They also help you by letting you know the cheapest prices for things you're interested in — and offer a $30 sign up bonus. Rakuten also has a generous referral system where you can earn $25 for each friend you refer. You can claim
your earnings for straight up cash via PayPal or Steam gift cards. Do you go grocery shopping at least twice a month? If you aren't using a grocery cash back on your purchases then you are leaving cash on the table. Just by downloading the app for free, adding in offers, and shopping as you normally would, you can
earn easy cash back on every grocery trip. Plus, you can get a $10 cash bonus just for signing up. Upside is a gas savings app that helps you get money back for each gas receipt you scan. You can also get cash back on restaurants and grocery offers as well. This is one of the few apps that legitimately gets you cash back at gas stations, so it's
definitely worth downloading for free. Upside gives you the option to cash out via PayPal, check or digital gift card. You need a minimum of $1 in order to take any money out of your account. According to Insider, a Steam Wallet is a digital-banking tool used by Steam to allow users to add funds to their Steam account. Steam Wallet allows users to
purchase games with funds in their accounts instead of directly using their credit or debit card. In select games, you can also use funds in Steam Wallet to make in-game purchases. Steam Gift Cards and Wallet codes are an easy way to put money into your own Steam Wallet or give the perfect gift of games to your friend or family member. Steam Gift
Cards work just like a gift certificate, while Steam Wallet Codes work just like a game activation code both of which can be redeemed on Steam. You can find Steam Gift Cards and Wallet Codes at retail stores across the World in a variety of
denominations or you can use sites that pay in Steam gift cards. To redeem a code in the Steam application, open Steam on your computer and from the top navigation bar, select "Account Details" and then "Add Funds to Your Steam Wallet Code". Steam Wallet Codes and
Steam Gift Cards are sold all over the globe. You can buy them in thousands of retail stores or online shops using your local payment methods or you can use some of the methods we share above. The only thing stopping you from earning "free" Steam codes is yourself. Anyone can sign up for any of the remote side hustle methods above and get at
least $10 in their Steam wallet today. Just be careful of other sites claiming to have free Steam code generators or offering other ideas that are likely scams or just affiliate links. You can benefit from learning about how to make money on Steam wallet! If
you're a gamer, you're probably on Steam every day looking at the new releases. But if you spend on these games every day, you'll very quickly run out of cash. The good news is that you can get Steam gift cards and wallet codes from legit sources - without spending a cent. Don't Miss These Freebies... PinchMe - Grab a GIANT box of free samples
shipped right to you from some of the world's most popular brands. Daily Goodie Box - What's better than one giant box of free stuff? TWO giant boxes of fr
the most popular gaming digital marketplace with over 30,000 existing games and software on its store. Steam has its own game launcher, a massive community of gamers, and almost every title imaginable. While Steam does let users try out about 100 games from the library at any given time, it isn't the same as choosing the game you actually want
to play. So if you're here to try and find out where you could get free Steam Gift Cards, read on to find out how! Free Steam Gift Cards and Steam Codes First, let's talk about your Steam Wallet. It is essentially a digital bank created by Steam enabling its users to store funds here from various sources. Once the wallet is funded, they can use this to buy
games and in-game items directly from Steam Wallet, you can either transfer funds from a bank account, Steam gift cards, or Steam wallet codes. Steam gift cards on a Steam wallet codes.
cards, you have to scratch the back of the Steam app. You can also buy Steam Wallet codes that can be sent electronically, such as through SMS or email. Unfortunately, there are scammers who utilize the Steam wallet facility to trick desperate
gamers into downloading virus-infected programs or providing sensitive personal information in exchange for free Steam gift cards. I assure you, this list contains only legitimate ways to earn free Steam gift cards and wallet codes. It doesn't mean that you don't have to work or do something in return, but these are all legal and legitimate ways. 30
Ways to Earn Free Steam Gift Card Codes Yep, there are actually dozens of ways you can work your way for free Steam credits. Below are several ways, grouped into the type of site/companies. But, let's start with the easiest and fastest way to get a free Steam Gift Card Codes Yep, there are actually dozens of ways you can work your way for free Steam credits. Below are several ways, grouped into the type of site/companies. But, let's start with the easiest and fastest way to get a free Steam Gift Cards via Swagbucks Simply, click here and create an account at
Swagbucks. You'll instantly be credited with a $10 signup bonus. You earn points by simply playing games, searching the web, watching videos, or doing any number of easy things online. You can then take that money and redeem it for Steam gift cards. It literally doesn't get any easier than this. Claim your free box of goodies now! It's a giant box of
free samples and it comes right to your door at no cost. Click here and get yours. Here are several other ways of earning them as well: MARKET RESEARCH 2. Opinion Outpost — Get $1 simply for signing up, and earn $1 for every survey you
complete. Surveys are assigned based on your profile. 4. Pinecone Research —This company pays for consumer opinion of products. Every survey answer gets you to earn points, which you can then redeem as cash or cards to pay for your Steam cards. 5. Market Agent — Market Agent — Market Agent has over 2 million users worldwide. Each survey takes 15 minutes
to complete and earns real cash per survey. Cashing out as gift cards or PayPal is available. 6. LifePoints Panel — Do surveys online (or via the app). Just like other market research companies, you'll get paid simply by sharing your feedback about a particular product or service. You get to save virtual points called LPs, which you can then redeem for
PayPal or e-gift cards. Of course, it's up to you to buy your Steam gift cards from the funds you earn. REWARDS PROGRAMS 7. Inbox Dollars — Join the site and get $5, no questions asked, then earn more money by answering a survey, watching videos, and completing other small tasks online. Convert the funds you collect to cash or gift cards like
Steam. 8. PrizeRebel — Complete surveys and share feedback on stuff like the other 8 million users on the site. Each task completed pays you points, which you can convert to buy Steam gift card, Amazon gift card, ITunes credit, or other payment methods. 9. PointsPrizes — This site pays users to answer surveys and perform
other tasks like watching videos or browsing the web. PointsPrizes support a wide range of gift cards, including Steam. 10. GrabPoints — Get paid to watch TV, download apps, and complete other no-brainer tasks. Each complete task gets you points that you can exchange for Steam codes or PayPal money. 11. Rewardia — Play games, complete
surveys, and earn points that you can exchange for various gift cards, including Steam gift cards, you'll need a minimum of 5.000 points or the equivalent of $5 to redeem these points, 12. Idle-Empire — This is another guick tasks. They
even give you bonus points for simply signing up. Earning 10,000 points is equivalent to $1. LOYALTY PROGRAMS (Gaming) 13. Mistplay — This app is a loyalty program for mobile gamers that rewards, such as Google Play credits, Prepaid Virtual Visa
credits, and of course, free Steam gift cards. They've given over $17 million to date. 14. Gamehag — Unlike Mistplay, which is only for mobile games, Gamehag is a loyalty program that allows you to earn points (called Soul Gems) for playing mobile and PC games. Once you have enough Soul Gems, you can redeem them for free Steam gift cards, as
well as free games and in-game items. 15. PlayNANO — Complete short tasks like watching videos, answering surveys, and playing games. Get paid in Nano, which is a cryptocurrency that you could then convert into Steam wallet codes. 16. Bananatic — Bananatic offers plenty of free-to-play online games to test and review, for which you can earn
 points to redeem a reward, including a free Steam gift card. CASHBACK SITES 18. Rakuten — Known formerly as eBates, this cashback site works by letting you shop as you normally would in over 2,500 stores and reward you with rebates through your PayPal account or by check. Use your rebate to get Steam gift cards or wallet codes for free.
 Joining the site even gets you $10 without any fuss. 19. Dosh — You need to enter your card details, but once you do, all your shopping will automatically earn you real cashback. You can then transfer your cash to your grocery shopping
and other purchases, which you can convert into free Steam gift cards. They offer a $10 bonus for signing up when you spend at least $25 through their cashback portal within 30 days of signing up. 21. My Points — Join now and receive a $10 bonus for signing up when you spend at least $25 through their cashback portal within 30 days of signing up. 21. My Points — Join now and receive a $10 bonus for signing up when you spend at least $25 through their cashback portal within 30 days of signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for significant up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bonus for signing up. 21. My Points — Join now and receive a $10 bon
collected points can be converted into Steam credits in the future. 22. BeFrugal — This cashback every time you shop from over 5,000 stores. Once you accumulate enough points, you can redeem for all the free Steam codes you want. 23. Ibotta — One of the most popular cashback sites
around, Ibotta has been exchanging rewards for cash just for your regular shopping. You get up to 30% cash back from popular retailers like Best Buy, The Home Depot, QVC, Walmart and thousands more. 24. Gift Card Granny — If you need to buy any kind of gift card, try purchasing it from Gift Card Granny so you could earn points. The more gift
cards you buy, the more points you gain, and the easier you can earn Steam gift cards. 25. Earnably — Redeem your points for instant cash rewards or free gift cards from your favorite brands and retailers. 26. Receipt Hog — Snap & track receipts to manage your budget & make easy returns. And share feedback with brands about what you buy and
why. In exchange, you earn rewards, which you can claim for Steam credits. Get Active in the Gaming Community 27. Humble Bundle — Humble Bundle offers game bundles at low prices and tons of deals for gamers. If you're a subscriber and looking for Steam gift card codes, check the Humble Bundle website because they often include Steam as
bonus for purchasing certain game bundles. 28. GOG.com — GOG.com is similar to Humble Bundle, except it focuses on DRM-free games. This site might not be a direct Steam partner, but they do give their customers free Steam gift cards sometimes as part of their game bundles. 29. Epic Games Store — If you buy games or try free games from the
Epic Games Store, you could receive free Steam Gift Cards Easily 30. Honeygain — Honeygain doesn't give away free Steam gift cards directly, but they do give away free money simply by letting the app run silently in the background of your
device. You can then use this money to buy your own Steam gift codes, or any other cards you need. Play Games While Earning Free Steam gift cards. Many
Steam users report in the in-house community that they were able to play a ton of hours in a particular game, save up weapons or accessories, and then sell them to other gamers in the community market. You'd be surprised to know that some gamers actually bite and pay for hard-earned gaming items. It's a great way to increase Steam wallet funds
Check these forums as well... Various Reddit communities are great places to connect with other games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with the steam wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam, Steam Wallet Codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam wallet codes, too. Bookmark these three to start with: FreeGamesOnSteam has all the new games on Steam wallet codes, too. Bookmark the steam wall the steam wallet codes, too. Bookmark the steam wallet codes, too. Bookmark the steam wallet codes, too. Bookmark the steam wal
you do want, and, SteamGiveaways hosts giveaways that you can join to have a chance to win Steam wallet codes. Start Getting Free Steam Gift Cards Today! Steam is a fantastic place for gamers, but it can be a huge drain on your wallet if you're not careful with spending, especially during the summer and winter sales events. Thank goodness for
free Steam gift cards and codes that you can earn legitimately and use to offset your budget for online games. If you play on other platforms, make sure you check out how to get free PS4 gift cards and free Xbox gift cards from
Walmart, Target, and even Visa. We've found $45.98 worth of Steam goodies across 15 Steam giveaways - May 2025. FREE$1.99DLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Special Outfit (DLC) on Steam and Unlock ... FREEDLC Claim your free Like a Dragon: Pirate Yakuza in Hawaii - Kazuma Kiryu Specia
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Aether for free on Steam! Dreams of Aether is a collection of dozens of microgames! FREEAdvertising Game of Thrones Winter is Coming is a PC strategy game based on the HBO drama television series... FREE$4.99Game Score Three Sisters for free via Steam! Three Sisters is a small indie rpg game with some dark humor. Check ...
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Projection Decals ... FREEBeta Access Claim your free Killing Floor 3 Steam Closed Beta Key Giveaway and join the closed beta event from February 20 to Febr
Alienware Arena or directly from the official publishers and developers. Fortunately, GamerPower finds and curates the best Steam giveaways in one place so that users can easily find and claim Steam Keys without having to search through multiple sites. Yes, Steam occasionally gives away games for free to its users and also offers free DLC for
certain games. Finding Steam giveaways can be a hassle, but Gamerpower makes it easy by compiling all the current Steam giveaways in one place. Last updated Jun. 29, 2024 by Peter Jakes Steam, developed by Valve Corporation, remains the leading digital distribution platform for PC gaming. While it is renowned for its robust library of games, in
game content, and software, what many gamers covet are free Steam codes in 2023. Online Surveys and Market Research Platforms like Swagbucks, PrizeRebel, and Survey Junkie offer rewards
for taking surveys and completing tasks. These rewards can often be converted into Steam gift cards. GPT (Get Paid To) Websites websites such as Swagbucks and InboxDollars offer a variety of tasks that pay users in points. These points can be exchanged for Steam gift cards or PayPal money, which can then be used on Steam. Giveaways and
Contests Websites like Reddit, Twitter, and other social media platforms are rife with giveaways hosted by individual users, influencers, and game developers. Subscribing to their channels or following certain accounts may land you a free Steam Gifts is a community-driven platform where users can host and enter giveaways
specifically for Steam codes. Regular participation and active community engagement can increase your chances of winning. Twitch Streams Some Twitch streams some Twitch streams some their broadcast promotions. Following and staying active in these streams can sometimes reward you with free codes. Humble Bundle Occasionally,
Humble Bundle offers free games directly via Steam codes. Subscribe to their newsletter or regularly check their site for any such promotions. Prize Websites like playing games, watching videos, and more. These points can subsequently be redeemed for
be prime spots for snapping up free codes regularly. < Short Answer There are several legitimate ways to acquire free Steam codes in 2023. Methods include participating in online surveys, entering giveaways, joining gaming communities on Reddit and Discord, or following Twitch streams. Sign up on platforms like Swagbucks, PrizeRebel, and
SteamGifts for additional chances. Epic Games Store The Epic Games Store often provides free games. Although these are for the Epic Games Store often provides free games and distributors. Sometimes, they reward loyal subscribers with
promotional codes, including free Steam codes. Online Forums and Community Boards Sites like NeoGAF, GameFAQs, or Giant Bomb have forums where users might share free Steam codes. Joining these can help you stay updated on any shared codes. Beta testers for their new games. Beta testers
can sometimes be rewarded with Steam codes upon completion of testing. YouTube Channels Some YouTube channels can be another way to secure free Steam codes. Referral Programs Sites like G2A and Green Man Gaming offer referral programs. By promoting their
site and getting others to sign up, users can earn credits, which can be converted into Steam codes. Bundle Stars and Fanatical sometimes bundle games in such a way that you might end up with duplicate Steam codes, which can be shared or traded. Charity Events Participating in charity streams and events related to gaming can
sometimes reward participants with Steam codes as a token of appreciation. Trading and Bartering Engage in steam trading communities where you can exchange in-game items, cards, and other digital goods for Steam codes. Promo Codes Developers sometimes release promo codes for their games. Following them on social media, joining their on soc
mailing lists, or checking their official sites regularly can get you these codes. FAQs Q1: Are free Steam code generators legit? A1: No, most free Steam code generators are scams and could harm your computer or steal your credentials. Stick to legitimate methods mentioned above. Q2: How often do giveaways happen on platforms like Reddit or
Discord? A2: Giveaways can happen frequently, ranging from a few times a month, depending on the community. Q3: Can you trust all giveaways on social media? A3: It's important to be cautious. Trust giveaways from verified accounts, official game developers, and well-known influencers only. Q4: Do I need special accounts
to participate in these giveaways? A4: Often, a basic account on the particular platform (like Twitch or SteamGifts) is enough. Some might require you to join a group or subscribe to a newsletter. Q5: Is it safe to trade games or codes on online forums? A5: Trading on forums comes with risks. Ensure the forum has good moderation, and trade with
reputable members to minimize risk. In summary, while there are numerous ways to snag free Steam codes, the key is to engage actively and safely in reputable communities and platforms. Always be vigilant about potential scams and enjoy your new gaming adventures! Multimedia delivery method "Streaming" and "Streamed" redirect here. For
 other uses, see Stream (disambiguation). "Media streaming" redirects here. For the feature in Microsoft Windows, see DLNA. This article is about streaming media in general. For the music listening format specifically, see Music streaming media in general. For the music listening format specifically, see Music streaming media in general. For the music listening format specifically, see Music streaming media in general. For the music listening format specifically, see Music streaming media in general. For the music listening format specifically, see Music streaming media in general. For the feature in Microsoft Windows, see DLNA. This article is about streaming media in general. For the feature in Microsoft Windows, see DLNA. This article is about streaming media in general. For the music listening format specifically, see Music streaming media in general streaming media in 
instantly depending on the user's internet connection, and the video is partially downloaded in the background. E-commerce Digital content Ebook Software Streaming media Retail goods and services Advertising Auctions Banking DVD-by-mail Distribution Food ordering Grocery Marketplace Pharmacy Ride-hailing Travel Online shopping Classified
advertising Comparison shopping Social commerce Trading communities Wallet Mobile commerce Payment Ticketing Customer service Call centre Help desk Live support software E-procurement Purchase-to-pay Super-appsyte Streaming media refers to multimedia delivered through a network for playback using a media player. Media is transferred
in a stream of packets from a server to a client and is rendered in real-time; [1] this contrasts with file downloading, a process in which the end-user obtains an entire media file before consuming the content. Streaming is more commonly used for video on demand, streaming the content. Streaming the content is not real-time; [1] this contrasts with file downloading, a process in which the end-user obtains an entire media file before consuming the content. Streaming is more commonly used for video on demand, streaming the content.
is most commonly associated with multimedia from a remote server over the Internet, it also includes offline multimedia between two devices using Bluetooth (which uses radio waves rather than IP).[3] Online streaming was
initially popularized by RealNetworks and Microsoft in the 1990s[4] and has since grown to become the globally most popular method for consuming music and videos,[5] with numerous competing subscription services being offered since the 2010s.[6] Audio streaming to wireless speakers, often using Bluetooth, is another use that has become
prevalent during that decade.[7] Live streaming is the real-time delivery of content during production, much as live television broadcasts content via television broadcasts content via television broadcasts content via television broadcasts content via television broadcasts content during production, much as live television broadcasts content via television broadcasts content v
inherently non-streaming (e.g., books, videotapes, audio CDs). The term "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other than video and audio, such as live closed captioning, ticker tape, and real-time text, which are all considered "streaming media" can apply to media other tape.
to slowly ramp up and run for the entire track; slower ramp times lowered drive costs. "Streaming" was applied in the early 1990s as a better description for video on demand and later live video on IP networks for video on IP networks. It was first done by Starlight Networks for video on IP netw
to by the misnomer "store and forward video."[9] Beginning in 1881, Théâtrophone enabled subscribers to listen to opera and theatre performances over telephone lines. This operated until 1932. The concept of media streaming eventually came to America.[10] In the early 1920s, George Owen Squier was granted patents for a system for the
transmission and distribution of signals over electrical lines,[11] which was the technical basis for what later became Muzak, a technology for streaming continuous music to commercial customers without the use of radio. The Telephone Music Service, a live jukebox service, began in 1929 and continued until 1997.[12][13] The clientele eventually
included 120 bars and restaurants in the Pittsburgh area. A tavern customer would find the record in the jukebox, use a telephone on top of the jukebox, and ask the operator to play a song. The operator would find the record in the studio library of more than 100,000 records, put it on a turntable, and the music would be piped over the telephone line
to play in the tavern. The music media began as 78s, 33s and 45s, played on the six turntables they monitored. CDs and tapes were incorporated in later years. The business had a succession of owners, notably Bill Purse, his daughter Helen Reutzel, and finally Dotti White. The revenue stream for each quarter was split between 60% for the music
service and 40% for the tavern owner.[14] This business model eventually became unsustainable due to city permits and the cost of setting up these telephone lines.[13] See also: Timeline of online video Attempts to display media on computers date back to the earliest days of computing in the mid-20th century. However, little progress was made for
several decades, primarily due to the high cost and limited capabilities of computer hardware. From the late 1980s, consumer-grade personal computers became powerful enough to display various media. The primary technical issues related to streaming were having enough CPU and bus bandwidth to support the required data
rates and achieving the real-time computing performance required to prevent buffer underruns and enable smooth streaming of the content. However, computer networks were still limited in the mid-1990s, and audio and video media were usually delivered over non-streaming channels, such as playback from a local hard disk drive or CD-ROMs on
the end user's computer. Terminology in the 1970s was at best confusing for applications such as telemetered aircraft or missile test data. By then PCM [Pulse Code Modulation] was the dominant transmission type. This PCM transmission type. This PCM transmission type.
acquired one of the first telemetry ground stations [Automated Telemetry Station, 'ATS'] which had the capability for reconstructing serial telemetered data which had been recorded on digital computer peripheral tapes. Computer peripheral tapes were inherently reconstruction was required for continuous display purposes
without time-base distortion. The Navy implemented similar capability in DoD for the first time in 1973. These implementations are the only known examples of true 'streaming' in the sense of reconstructing distortion-free serial data from packetized or blocked recordings.[15] 'Real-time' terminology has also been confusing in streaming context. The
most accepted definition of 'real-time' requires that all associated processing or formatting of the data must take place prior to availability of the next sample of each measurement. In the 1970s the most powerful mainframe computers were not fast enough for this task at significant overall data rates in the range of 50,000 samples per second. For
that reason both the Grumman ATS and the Navy Real-time Telemetry Processing System [RTPS] employed unique special purpose digital computers dedicated to real-time processing of raw data samples. In 1990, the first commercial Ethernet switch was introduced by Kalpana, which enabled the more powerful computer networks that led to the
first streaming video solutions used by schools and corporations. Practical streaming media was only made possible with advances in data compressed media. Raw digital audio encoded with pulse-code modulation (PCM) requires a bandwidth of 1.4 Mbit/s for uncompressed CD
audio, while raw digital video requires a bandwidth of 168 Mbit/s for FHD video and over 1000 Mbit/s for FHD video. [16] See also: Original net animation During the early 2000s, users had access to increased network bandwidth, especially
in the last mile. These technological improvements facilitated the streaming of audio and video content to computer users in their homes and workplaces. There was also an increasingly commercialized, which led to an infusion of investment
into the sector. The band Severe Tire Damage was the first group to perform live on the Internet. On 24 June 1993, the band was playing a gig at Xerox PARC, while elsewhere in the building, scientists were discussing new technology (the Mbone) for broadcasting on the Internet using multicasting. As proof of PARC's technology, the band's
performance was broadcast and could be seen live in Australia and elsewhere. In a March 2017 interview, band member Russ Haines stated that the band had used approximately "half of the total bandwidth of the internet" to stream the performance, which was a 152 × 76 pixel video, updated eight to twelve times per second, with audio quality that
was, "at best, a bad telephone connection."[17] In October 1994, a school music festival was webcast from the Michael Fowler Centre in Wellington, New Zealand. The technician who arranged the webcast, local council employee Richard Naylor, later commented: "We had 16 viewers in 12 countries."[18] RealNetworks pioneered the broadcast of a
baseball game between the New York Yankees and the Seattle Mariners over the Internet in 1995.[19] The first symphonic concert on the Internet—a collaboration between the Paramount Theater in Seattle, Washington, on 10 November 1995.[20] In
1996, Marc Scarpa produced the first large-scale, online, live broadcast, the Adam Yauch-led Tibetan Freedom Concert, an event that would define the format of social change broadcasts, Scarpa continued to pioneer in the streaming media world with projects such as Woodstock '99, Townhall with President Clinton, and more recently Covered CA's
corporate Ethernet networks. Starworks was from Starlight Networks, which also pioneered live video streaming on Ethernet Protocol over satellites with Hughes Networks and Protocomm prior to widespread World Wide Web
usage. After the Netscape IPO in 1995 (and the release of Windows 95 with built-in TCP/IP support), usage of the Internet expanded, and many companies "went public", including Progressive Networks (which was renamed "RealNetworks", and listed on Nasdaq as "RNWK"). As the web became even more popular in the late 90s, streaming video on
the internet blossomed from startups such as Vivo Software (later acquired by RealNetworks), VDOnet (acquired by RealNetworks), Precept (acquired by RealNetworks), Precept (acquired by RealNetworks), VDOnet (acquired by RealNetworks), Precept (acquired by RealNetworks), VDOnet (acquired by RealNetworks), VDOnetworks), VDONetworks
which was the precursor to the streaming feature later in Windows Media Player 6.4 in 1999. In June 1999, Apple also introduced a streaming media format in its QuickTime 4 application. It was later also widely adopted on websites required each user
to download the respective applications for streaming, which resulted in many users having to have all three applications on their computer for general compatibility. In 2000, Industryview.com launched its "world's largest streaming video archive" website to help businesses promote themselves.[24] Webcasting became an emerging tool for business
marketing and advertising that combined the immersive nature of television with the interactivity of the Web. The ability to collect data and feedback from potential customers caused this technology to gain momentum quickly.[25] Around 2002, the interest in a single, unified, streaming format and the widespread adoption of Adobe Flash prompted
the development of a video streaming format through Flash, which was the format used in Flash-based players on video hosting sites. The first popular video streaming format through Flash, which played MPEG-4 AVC video and AAC audio, but now
defaults to HTML video.[26] Increasing consumer demand for live streaming prompted YouTube to implement a new live streaming service for users.[27] The company currently also offers a (secure) link that returns the available connection speed of the user.[28] The Recording Industry Association of America (RIAA) revealed through its 2015,
earnings report that streaming services were responsible for 34.3 percent of the year's total music industry's revenue, growing 29 percent from the previous year and becoming the largest source of income, pulling in around $2.4 billion.[29][30] US streaming revenue grew 57 percent to $1.6 billion in the first half of 2016 and accounted for almost
half of industry sales.[31] See also: List of streaming wars" redirects here. For the South Park film, see South Park film, see South Park The Streaming wars" redirects here. For the South Park film, see South Park film, see South Park The Streaming wars" redirects here.
Golden Age (1947-1960) Network era (1950s-1980s) Multi-channel transition (1980s-1990s) Peak TV and the post-network era (1999-c. 2023) Streaming wars (2019-2022) Histories Sports broadcasting Public Broadc
describe the new era (starting in the late 2010s) of competition between video streaming services such as Netflix, Amazon Prime Video, Hulu, Max, Disney+, Paramount+, Apple TV+, Peacock, and many more.[6][32] The competition between increasingly popular online platforms, such as Netflix and Amazon, and legacy broadcasters and studios
moving online, like Disney and NBC, has driven each service to find ways to differentiate from one another. A key differentiator has been offering exclusive content, often self-produced and created for a specific market segment. When Netflix first launched in 2007, it became one of the more dominant streaming platforms even though it initially
offered no original content. It would be nearly a half-dozen years before Netflix began offering its own shows, such as House of Cards, Orange Is the New Black, and Hemlock Grove. The legacy services also began producing original digital-only content, but they also began producing original digital-only content. It would be nearly a half-dozen years before Netflix began offering its own shows, such as House of Cards, Orange Is the New Black, and Hemlock Grove. The legacy services also began producing original digital-only content.
the most notable examples being Disney +. Disney took advantage of owning popular movies and shows like Frozen, Snow White, and the Star Wars and Marvel franchises, which could draw in more subscribers and make it a more serious competition can be
disadvantageous for consumers by increasing spending across platforms, and for the industry as a whole by dilution of subscriber base. Once specific content is made available on a streaming service, piracy searches for the same content decrease; competition or legal available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a streaming service, piracy searches for the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on a stream of the same content is made available on the same content is made available on the same content is made available on the same cont
content produced for subscription services such as Netflix tends to have a higher production budget than content produced exclusively for pay-per-view services, such as Amazon Prime Video. [34] This competition increased during the first two years of the COVID-19 pandemic as more people stayed home and watched TV. "The COVID-19 pandemic
has led to a seismic shift in the film & TV industry in terms of how films are made, distributed, and screened. Many industries have been hit by the economic effects of the pandemic-era restrictions had largely ended and audience growth
had stalled. This led services to focus on profit over market share by cutting production budgets, cracking down on password sharing, and introducing ad-supported tiers.[35] A December 2023, several streaming services formed a
trade association named the Streaming Innovation Alliance (SIA), spearheaded by Charles Rivkin of the Motion Picture Association (MPA). Former U.S. representative Fred Upton and former Federal Communications Commission (FCC) acting chair Mignon Clyburn serve as senior advisors. Founding members include AfroLandTV, America Nu
Network, BET+, The Africa Channel, Discovery+, FedNet, For Us By Us Network, In the Black Network, Max, Motion Picture Association, MotorTrend+, Netflix, Paramount+, Peacock, Pluto TV, Radiant, SkinsPlex, Telemundo, TelevisaUnivision, TVEI, Vault TV, Vix, and The Walt Disney Company. Notably absent were Apple, Amazon, Roku, and Tubi.
[37][38] A camera live streaming at a zoo by Niconico Advances in computer networking, combined with powerful home computers and operating systems, have made streaming at a zoo by Niconico Advances in computer networking, combined with powerful home computers and operating systems, have made streaming at a zoo by Niconico Advances in computer networking, combined with powerful home computers and operating systems, have made streaming at a zoo by Niconico Advances in computer networking, combined with powerful home computers and operating systems.
streaming services became increasingly popular; music streaming reached 4 trillion streams globally in 2023—a significant increase from 2022—jumping 34% over the year.[39] A car audio receiver playing music being streamed via Bluetooth from a smartphone In general, multimedia content is data-intensive, so media storage and transmission costs
are still significant. Media is generally compressed for transport and storage. Increasing consumer demand for streaming HD content has led the industry to developers have introduced HD streaming apps that work on smaller
devices, such as tablets and smartphones, for everyday purposes. "Streaming creates the illusion—greatly magnified by headphone use, which is another matter—that music is a utility you can turn on and off; the water metaphor is intrinsic to how it works. It dematerializes music, denies it a crucial measure of autonomy, reality, and power. It makes
music seem disposable, impermanent. Hence it intensifies the ebb and flow of pop fashion, the way musical 'memes' rise up for a week or a month and are then forgotten. And it renders our experience of individual artists/groups shallower." —Robert Christqau, 2018[40] A media stream can be streamed either live or on demand. Live streams are
generally provided by a method called true streaming. True streaming is provided by a method called progressive download saves the received information to a local file and then plays it from that location. On-demand
streams are often saved to files for extended period of time, while live streams are only available at one time only (e.g., during a football game).[41] Streaming media is increasingly being coupled with the use of social media. For example, sites such as live chat, online
surveys, user posting of comments online, and more. Furthermore, streaming media is increasingly being used for social business and e-learning.[42] The Horowitz Research State of Pay TV, OTT, and SVOD 2017 report said that 70 percent of those viewing content did so through a streaming service and that 40 percent of TV viewing was done this
way, twice the number from five years earlier. Millennials, the report said, streamed 60 percent of the movie streaming industry's largest impacts was on the DVD industry, which drastically dropped in popularity and profitability with the mass popularization of online content. [44] The rise of media streaming caused the
downfall of many DVD rental companies, such as Blockbuster. In July 2015, The New York Times published an article about Netflix's DVD services with 5.3 million subscribers, which was a significant drop from the previous year. On the other hand, their streaming service had 65 million subscribers, which was a significant drop from the previous year.
members.[45] The shift to streaming platforms also led to the decline of DVD rental services. In July 2024, NBC News reported that RedBox, a DVD rental services has been rapidly declining since 2010, the business had to file for
bankruptcy, with 99% of households now subscribing to streaming services. Further reflecting the shift away from physical media, BestBuy has ceased selling DVDs. [46] Music streaming is one of the most popular ways in which consumers interact with streaming media. In the age of digitization, the private consumption of music has transformed into
a public good, largely due to one player in the market: Napster. Napster. Napster. Napster. Napster. Napster. Napster. Napster. (P2P) file-sharing network where users could upload and download MP3 files freely, broke all music industry conventions when it launched in early 1999 in Hull, Massachusetts. The platform was developed by Shawn and John Fanning as well as Sean Parker.[47]
In an interview from 2009, Shawn Fanning explained that Napster "was something that came to me as a result of seeing a sort of unmet need and the passion people had for being able to find all this music, particularly a lot of the obscure stuff, which wouldn't be something you go to a record store and purchase, so it felt like a problem worth solving.
[48] Not only did this development disrupt the music industry by making songs that previously required payment to be freely accessible to any Napster user, but it also demonstrated the power of P2P networks in turning any digital file into a public, shareable good. For the brief period of time that Napster existed, mp3 files fundamentally changed as
a type of good. Songs were no longer financially excludable, barring access to a computer with internet access, and they were not rivals, meaning if one person downloaded a song, it did not diminish another user from doing the same. Napster, like most other providers of public goods, faced the free-rider problem. Every user benefits when an
individual uploads an mp3 file, but there is no requirement or mechanism that forces all users to share their music. Generally, the platform encouraged sharing; users who downloaded files from others often had their own files available for upload as well. However, not everyone chose to share their files. There was no a built-in incentive specifically
discouraging users from sharing their own files. [49] This structure revolutionized the consumer's perception of ownership over digital goods; it made music freely replicable. Napster duickly garnered millions of users, growing faster than any other business in history. At the peak of its existence, Napster boasted about 80 million users globally. The
site gained so much traffic that many college campuses had to block access to Napster because it created network congestion from so many students sharing music files. [50] The advent of Napster sparked the creation of numerous other P2P sites, including LimeWire (2000), BitTorrent (2001), and the Pirate Bay (2003). The reign of P2P networks was
short-lived. The first to fall was Napster in 2001. Numerous lawsuits were filed against Napster by various record labels, all of which were subsidiaries of Universal Music Group, Sony Music Entertainment, Warner Music Group, or EMI. In addition to this, the Recording Industry Association of America (RIAA) also filed a lawsuit against Napster on the
grounds of unauthorized distribution of copyrighted material, which ultimately led Napster to shut down in 2001.[50] In an interview with the New York Times, Gary Stiffelman, who represents Eminem, Aerosmith, and TLC, explained, "I'm not an opponent of artists' music being included in these services, I'm just an opponent of their revenue not
being shared."[51] The lawsuit A&M Records, Inc. v. Napster, Inc. fundamentally changed the way consumers interact with music streaming. It was argued on 2 October 2000, and was decided on 12 February 2001. The Court of Appeals for the Ninth Circuit ruled that a P2P file-sharing service could be held liable for contributory and vicarious
infringement of copyright, serving as a landmark decision for Intellectual property law. [52] The first issue that the Court addressed was fair use, which says that otherwise infringing activities are permissible so long as they are for purposes "such as criticism, comment, news reporting, teaching [...] scholarship, or research. "[53] Judge Beezer, the
judge for this case, noted that Napster claimed that its services fit "three specific alleged fair uses: sampling, where users access a sound recording through the Napster system that they already own in audio CD format; and permissive distribution of recordings by both
new and established artists."[53] Judge Beezer found that Napster did not fit these criteria, instead enabling their users to repeatedly copy music, which would affect the market value of the copyright infringement since it had knowledge of widespread
file sharing on its platform. Since Napster took no action to reduce infringement and financially benefited from repeated use, the court ruled against the P2P site. The court found that "as much as eighty-seven percent may be owned or administered by plaintiffs."[53]
The injunction ordered against Napster ended the brief period in which music streaming was a public good - non-rival and non-excludable in nature. Other P2P networks had some success at sharing MP3s, though they all met a similar fate in court. The ruling set the precedent that copyrighted digital content cannot be freely replicated and shared
unless given consent by the owner, thereby strengthening the property rights of artists and record labels alike.[52] Main article: Music streaming platforms have become more prevalent in the US, music streaming is
no longer a freely replicable public good, streaming platforms such as Spotify, Deezer, Apple Music, SoundCloud, YouTube Music, and Amazon Music have shifted music streaming to a club-type good. While some platforms, most notably Spotify, give customers access to a freemium service that enables the use of limited features for exposure to
advertisements, most companies operate under a premium subscription model.[55] Under such circumstances, music streaming is financially excludable, requiring that customers pay a monthly fee for access to a music library, but non-rival, since one customer's use does not impair another's. An article written by the New York Times in 2021 states
that "streaming saved music." This is because it provided monthly revenue. Especially Spotify offers its free platform, but you can pay for their premium to get music anywhere from their devices not having to rely on CDs anymore. There is competition between services similar but lesser to the
streaming wars for video media. As of 2019[update], Spotify has over 207 million users in 78 countries, [57] As of 2018[update], Apple Music and Prime Music only offer their services for paid subscribers, whereas Spotify and
SoundCloud offer freemium and premium services. Napster, owned by Rhapsody since 2011, has resurfaced as a music streaming platform offering subscription-based services to over 4.5 million users as of January 2017[update].[59] In the evolving music streaming platforms is shaped by various factors, including
royalty rates, exclusive content, and market expansion strategies. A notable development occurred in January 2025, when Universal Music Group (UMG) and Spotify announced a new multi-year agreement. This partnership aims to enhance opportunities for artists and consumers through innovative subscription tiers and an enriched audio-visual
catalog.[60] The music industry's response to music streaming was initially negative. Along with music piracy, streaming services disrupted the market and contributed to the fall in US revenue from $14.6 billion in 1999 to $6.3 billion in 2009. CDs and single-track downloads were not selling because content was freely available on the Internet. By
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2018, however, music streaming revenue exceeded that of traditional revenue exceeded that of traditional revenue is now one of the largest driving forces behind the growth in the music industry. By August 2020, the COVID-19 pandemic had streaming revenue exceeded that of traditional revenue exceeded that of traditional revenue streams (e.g. record sales, album sales, downloads).[61] Streaming revenue exceeded that of traditional revenue exceeded that of traditional revenue exceeded that of traditional revenue is now one of the largest driving forces behind the growth in the music industry.
surge in subscriptions, in the UK alone, 12 million people joined a new streaming service that they had not previously had.[62] Global subscriptions skyrocketed passing 1 billion.[63] Within the first 3 months, back in 2020, nearly 15.7 million people signed up for Netflix.[64] With people stuck at home and facing lock-downs Netflix and other
streaming services provided a much needed distraction. An impact analysis of 2020 data by the International Composers (CISAC) indicated that remuneration from digital streaming of music increased with a strong rise in digital royalty collection (up 16.6% to EUR 2.4 billion), but it would not compensate the
overall loss of income of authors from concerts, public performance and broadcast. [65] The International Federation of the Phonographic Industry report, it recorded that the global recorded music market grew by 7.4% in 2022, the
6th consecutive year of growth. This growth was driven by streaming, mostly from paid subscription accounts by the end of 2020.[66] The COVID-19 pandemic has also driven an increase in misinformation and disinformation, particularly on streaming platforms
like YouTube and podcasts.[67] A TV set streaming an audio file from a local home server Streaming also refers to the offline streaming and bare media.[68][69] Such capabilities are heightened using
network-attached storage (NAS) devices at home, or using specialized software like Plex Media Server, Jellyfin or TwonkyMedia.[70] A broadband speed of 2 Mbit/s or more is recommended for high-
definition content and 9 Mbit/s for ultra-high-definition content.[72] Streaming media storage size is calculated from the streaming bandwidth and length (in seconds) × bit rate (in bit/s) / (8 × 1024 × 1024). For example, one hour of digital
video encoded at 300 kbit/s (this was a typical broadband video in 2005 and it was usually encoded in 320 \times 240 resolution) will be: (3,600 s \times 300,000 bit/s) / (8 \times 1024 \times 1024) requires around 128 MB of storage. If the file is stored on a server for on-demand streaming and this stream is viewed by 1,000 people at the same time using a Unicast
protocol, the requirement is 300 kbit/s × 1,000 = 300,000 kbit/s = 300 Mbit/s of bandwidth. This is equivalent to around 135 GB per hour. Using a multicast protocol the server sends out only use 300 kbit/s of server bandwidth. In 2018 video was more than 60% of data
traffic worldwide and accounted for 80% of growth in data usage.[73][74] Unicast connections from the same content. Video and audio streams are compressed to make the file size smaller. Audio coding formats include MP3, Vorbis, AAC and Opus. Video coding formats
include H.264, HEVC, VP8 and VP9. Encoded audio and video streams are assembled in a container bitstream such as MP4, FLV, WebM, ASF or ISMA. The bitstream is delivered from a streaming server to a streaming client (e.g., the computer user with their Internet-connected laptop) using a transport protocol, such as Adobe's RTMP or RTP. In the
2010s, technologies such as Apple's HLS, Microsoft's Smooth Streaming, Adobe's HDS and non-proprietary formats such as MPEG-DASH emerged to enable adaptive bitrate streaming over HTTP as an alternative to using proprietary transport protocols. Often, a streaming transport protocol is used to send video from an event venue to a cloud
transcoding service and content delivery network, which then uses HTTP-based transport protocols to distribute the video to individual homes and users. [75] The streaming client (the end user) may interact with the streaming server using a control protocol, such as MMS or RTSP. The quality of the interaction between servers and users is based on
the workload of the streaming service; as more users attempt to access a service the quality may be affected by resource constraints in the service. [76] Deploying clusters of streaming servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where there are regional servers is one such method where the region is one such method where the r
as well as the IP addresses of the regional servers. This central server then uses load balancing and scheduling algorithms to redirect users to provide streaming data to both users as well as regional servers using FFmpeg libraries if required,
thus demanding the central server to have powerful data processing and immense storage capabilities. In return, workloads on the streaming quality.[77][needs update] Designing a network protocol to support streaming media raises many problems. Datagram protocols,
such as the User Datagram Protocol (UDP), send the media stream as a series of small packets. This is simple and efficient; however, there is no mechanism within the protocol to guarantee delivery. It is up to the receiving application to detect loss or corruption and recover data using error correction techniques. If data is lost, the stream may suffer
a dropout. The Real-Time Streaming Protocol (RTSP), Real-time Transport Protocol (RTCP) and the Real-time Transport Protocol (RTCP) were specifically designed to stream media over networks. RTSP runs over a variety of transport protocol (RTCP) were specifically designed to stream media over networks. RTSP runs over a variety of transport protocol (RTCP) were specifically designed to stream media over networks.
progressive download, but contrary to the previous approach, here the files are very small, so that they can be compared to the streaming of packets, much like the case of using RTSP and RTP.[79] Reliable protocols, such as the Transmission Control Protocol (TCP), guarantee correct delivery of each bit in the media stream. It means, however, that
when there is data loss on the network, the media stream stalls while the protocol handlers detect the loss and retransmit the missing data. Clients can minimize this effect by buffering data for display. While delay due to buffering is acceptable in video-on-demand scenarios, users of interactive applications such as video conferencing will experience
a loss of fidelity if the delay caused by buffering exceeds 200 ms.[80] Multicasting broadcasts the same copy of the multimedia over the entire network to a group of clients Unicast is the norm for most Internet connections but does not scale well when many
users want to view the same television program concurrently. Multicast protocols were developed to reduce server and network loads resulting from duplicate data streams from the source to a group of recipients. Depending on the
network infrastructure and type, multicast transmission may or may not be feasible. One potential disadvantage of multicasting is the loss of video on demand functionality. Continuous streaming of radio or television material usually precludes the recipient's ability to control playback. However, this problem can be mitigated by elements such as
caching servers, digital set-top boxes, and buffered media players. IP multicast provides a means to send a single media stream to a group of recipients on a LAN.
One of the challenges in deploying IP multicast is that routers and firewalls between LANs must allow the passage of packets destined to multicast groups. If the organization that is serving the content has control over the network between a serving the content has control over the network between the net
Protocol Independent Multicast can be used to deliver stream content to multiple local area network segments. Peer-to-peer (P2P) protocols arrange for prerecorded streams to be sent between computers. This prevents the server and its network connections from becoming a bottleneck. However, it raises technical, performance, security, quality,
and business issues. Content delivery networks (CDNs) use intermediate servers to distribute the load. Internet-compatible unicast delivery is used between CDN nodes and streaming destinations. Media that is livestreamed can be recorded through certain media players, such as VLC player, or through the use of a screen recorder. Live-streaming
platforms such as Twitch may also incorporate a video on demand system that allows automatic recording of live broadcasts, including television shows aired on major networks. These streams have the potential to be recorded by anyone who has access to them,
whether legally or otherwise. [82] Recordings can happen through any device that allows people to watch movies they do not have access to or be at a music festival they could not get tickets to. These live streaming platforms have revolutionized entertainment, creating new ways for people to interact with content. Many celebrities started live
streaming during COVID-19 through platforms like Instagram, YouTube, and TikTok offering an alternate form of entertainment when concerts were postponed. Live streaming services feature a recommender system for viewing based on each
user's view history in conjunction with all viewers' aggregated view histories. Rather than focusing on subjective categorization of content by content curators, there is an assumption that, with the immensity of data collected on viewing habits, the choices of those who are first to view content can be algorithmically extrapolated to the totality of the
user base, with increasing probabilistic accuracy as to the likelihood of their choosing and enjoying the recommended content as more data is collected. [83] Useful and typical applications of streaming are, for example, long video lectures performed online.
can always be interrupted or repeated at arbitrary places. Streaming enables new content marketing concerts instead of several CDs or similar fixed media in their Digital Concert Hall[85] using YouTube for trailers. These online concerts are also spread
over a lot of different places, including cinemas at various places on the globe. A similar concept is used by the Metropolitan Opera in New York. There is also a livestream from the International Space Station.[86][87] In video entertainment, video entertainme
Marketers have found many opportunities offered by streaming media and the platforms that offer them, especially in light of the significant increase in the use of streaming media during COVID lockdowns from 2020 onwards. While revenue and placement of traditional advertising continued to decrease, digital marketing increased by 15% in 2021,
[89] with digital media and search representing 65% of the expenditures. A case study commissioned by the WIPO[90] indicates that streaming services attract advertising budgets with the opportunities provided by interactivity and the use of data from users, resulting in personalization on a mass scale with content marketing. [91] Targeted
marketing is expanding with the use of artificial intelligence, in particular programmatic advertisers decide their campaign parameters and whether they are interested in buying advertising space online or not. One example of advertising space acquisition is Real-Time Bidding (RTB).[92] See also: Copyright aspects of
downloading and streaming For over-the-top media service (OTT) platforms, the original content captures additional subscribers. [93] This presents copyright issues and the potential for international exploitation through streaming, [94] widespread use of standards, and metadata in digital files. [95] The WIPO has indicated several basic copyright
issues arising for those pursuing work in the film[96] and music industries[97] in the era of streaming copyrighted content is also an issue for many companies that rely on revenue based on views or attendance.[98] Main
article: Greenhouse gas emissions § Digital services The net greenhouse gas emissions from streaming music were estimated at between 0.2 and 340,000 long tons; 220,000 
digital music period, which were estimated at "0.14 million metric tons (140,000 long tons; 150,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 150,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 short tons) in 1988, and 0.157 million (155,000 long tons; 173,000 lon
gas emissions in the United States from beef cattle (burping of ruminants only - not including their manure) were 129 million metric tons (127 million long tons; 142 million short tons) in 2019.[101] A 2021 study claimed that, based on the amount of data transmitted, one hour of streaming or videoconferencing "emits 150-1,000 grams (5-35 oz) of
carbon dioxide ... requires 2-12 liters (0.4-2.6 imp gal; 0.5-3.2 U.S. gal) of water and demands a land area adding up to about the size of an iPad Mini." The study suggests that turning the camera off during video calls can reduce the greenhouse gas and water use footprints by 96%, and that an 86% reduction is possible by using standard definition
rather than high definition when streaming content with apps such as Netflix or Hulu.[102][103] However, another study estimated a relatively low amount of 36 grams per hour (1.3 ounces per hour), and concluded that watching a Metflix video for half an hour emitted only the same amount as driving a gasoline-fuelled car for about 100 meters
(330 ft), so not a significant amount.[104] One way to decrease greenhouse gas emissions associated with streaming music is to make data centers carbon neutral by converting to electricity produced from renewable sources. On an individual level, the purchase of a physical CD may be more environmentally friendly if it is to be played more than 27
times.[105][dubious - discuss] Another option for reducing energy use is downloading the music for offline listening to reduce the necessity of repeating song streams.[106] Record production portal Comparison of music streaming services Comparison
of streaming media software Comparison of video hosting services Content delivery platform Digital television Directive on Copyright in the Digital Single Market Internet Protocol television Geo-blocking List of streaming media services P2PTV
Protection of Broadcasts and Broadcasts and Broadcasting Organizations Treaty Smart TV Stream ripping Video over cellular ^ Patrikakis, Charalampos; Papaoulakis, Nikos; Stefanoudaki, Chryssanthi; Nunes, Mário (2010), Daras, Petros; Ibarra, Oscar Mayora (eds.), "Streaming Content Wars: Download and Play Strikes Back", User Centric Media, vol. 40, Berlin,
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view game content, discussions, guides, support, and more. Plus you can manage game downloads and updates to your PC from your phone to confirm them. Plus • A personalized News feed based on your Library with the latest news, events, and content updates
direct from publishers and game developers. • Customizable Steam notifications: wishlist, sales, comments, trades, discussions, groups, guides, Market, Workshop, broadcasts, and more. • Access to the entire Steam Community - discussions, groups, screenshots, inventory, wallet, and
more. • Authorized Devices - Manage access to the devices your account has signed in • An improved Store browsing experience for mobile screens • Support for customizing your app's main tabs Apr 15, 2025 Version 3.10.0 - Improvements to the Move Authenticator flow- Other minor fixes and
improvements I really like a lot of the new features added in the recent overhaul, being able to redeem codes in the app itself is a huge plus. That said, it's clear this update was not made with iPads in mind, there's no support for Landscape orientation. There are major issues with the search function too, typing into the bar doesn't offer suggestions
and tapping return just clears the bar without taking you into a search page. This means i cannot actually search the store within the app. Which, given that this is a 5-star app easy. But until then, i can only give it a 3. Please fix this soon!EDIT: landscape support has
been added and makes the app much more functional but the search bar still does not work at all, this needs to be fixed asap I have a new computer that made a steam account on my device and now I see over a hundred servers in tools and every game they own
on MY account. They then uninstalled my two games on my computer from their account, that's being deleted, they see only two games,
mine. We can't stop steam from hijacking my computer doing whatever they want. So technically right now they are deleting my new account that signed into my device. This is a disaster for anyone with cptsd from hacking abuse like me. I guess in the end I can't use
steam at all because they ignore you when you're telling them what's going on. My new account is banned from participating in the community when I've never even talked to anyone because I have no friends. Thanks to steam for compromising my brand new computer and thanks for forcing me off your platform for no reason at all. To those reading
this never let anyone else sign in on your computer even your sibling or they will switch the accounts and destroy your computer told me to download the mobile application to remove the trade/market holds. This was my
first time using the STEAM market, so I thought that sounded great! It worked the moment I activated the Authenticator, allowing me to sell and trade cards. Two days later, my account suddenly has the holds again. I thought I'd simply refresh the Authenticator and it would fix it. I was horribly mistaken. Adding the Mobile Authentication to your
account does NOTHING. It does NOT remove trade holds consistently and it extremely frustrating to try and understand. After authenticating for the second time, it not only didn't release my trade hold, but removed my ability to use the Community Market for 15 DAYS!! I'll forget all about my trades and badges I was crafting by then! There's no
button to prove that it was you that made the trade, you just have to suffer in silence for 15 days. THIS IS AN AWFUL SYSTEM! If you're downloading this app just for the authentication, its more worth it to just buy the cards straight up or farm gems than go through sell/trade side of the Community Market. 0/10 experience. All I wanted was badges
for my favorite games. P.S. Same thing happened to my friends in the past. NOT JUST ME! VALVE, FIX THIS!! All we need is a "I made that transaction" button! That's it!! No more holding our stuff for 15 days! The developer, Valve, indicated that transaction" button! That's it!! No more holding our stuff for 15 days! The developer, Valve, indicated that the app's privacy practices may include handling of data as described below. For more information, see
the developer's privacy policy. The following data may be collected and linked to your identify: Purchases Financial Info Contact Info User Content Search History Identifiers Usage Data Diagnostics Privacy Policy
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