

# **Streaming Music services**

**Apple Music and its Competition**

# History (A Walk Down Memory Lane)

- 10 major music-related events from 1999 to 2017
  - Some of these sites and apps are still used today, others have been discontinued
- Three stakeholders:
  - Consumers – want to be able to listen to music on demand, but pay as little as possible
  - Artists – want consumers to listen to their music, but want to receive compensation for it
  - Corporations – want artists to release music to them to provide to consumers, but don't want to pay much for it



# Napster – 1999



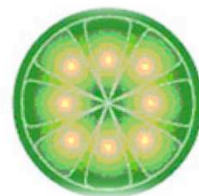
- Peer-to-peer file sharing service that was primarily used for MP3 files (music)
- Connect users with each other to share music on their hard drives
- Recording Industry Association of America (RIAA) called Napster “a giant online pirate bazaar” and wanted to shut it down
- Metallica saw one of their songs on Napster before it was officially released
  - Metallica along with Dr. Dre sued Napster which was the beginning of their demise
- Napster peaked with 26.4 million users worldwide in February 2001
  - Shut down in July 2001
  - Acquired by Rhapsody in 2011

# Pandora – 2000



- Music streaming and automated music recommendation service with approximately 1.5 million songs
- While listening, users are offered the ability to buy the songs or albums at various online retailers
- Two listening options: free version with advertisements and advertisement-free version for \$4.99/month
  - As of October 2014, less than 5% of listeners were paying for the subscription
- Pays three different types of fees to receive its content: SoundExchange, licensing agencies, and Rovi
- Pandora is desirable to advertisement agencies because it can reach a more narrow audience
  - Users have the option of opting out of targeted ads, but they will still receive generic ads

# LimeWire – 2000



LimeWire™

- Peer-to-peer file sharing program that allowed users to upload and download many different types of files using BitTorrent
  - MP3 (music), AVI/MPEG (video), JPG (images)
  - Free version as well as a purchasable “enhanced” version were available
- LimeWire did not use any centralized server to store files
  - Instead, it directly transfers files from one user’s hard drive to another user’s hard drive
- October 26, 2010: U.S. federal court judge issued an injunction forcing LimeWire to stop distributing its software and to disable installed software
- The program has been “resurrected” by the creators of WireShare

# iTunes – 2001



- Began as software to mix your media
  - Create mixed CDs with your existing music
  - “Rip. Mix. Burn.”
- Soon after, Apple introduced the iPod
  - Allowed users to convert their CDs to MP3 files
  - Compacted data → more space for music
- Direct response to Napster in April 2003 by introducing iTunes 4 (that included the iTunes Store)
  - Introduced foreign idea of buying digital copies of music during a time when everyone was pirating or sharing music
  - Offered \$0.99 singles → single culture
  - Continued to integrate other media and sophisticated platform to lure users

# MySpace – 2002



- Anyone, famous or not, could upload their songs onto MySpace and millions of people would have access to listening by adding them as a friend
- Artists such as Lily Allen, Owl City, Hollywood Undead, Sean Kingston, Arctic Monkeys, and Drop Dead, Gorgeous were discovered through MySpace
- 2008 – MySpace redesigned its music page and added new features
  - Artists could make playlists, songs could also be archived
- Suggests songs that are similar to the ones you are listening to with discovery tool
- You can view popular music from other countries of the world

# Vuze - 2003



- A BitTorrent client used to transfer files via BitTorrent protocol
  - Fastest BitTorrent client
- Content is presented through channels and categories containing TV shows, music videos, movies, video games, and others
- Personalized with the subscription feature
- Drag and drop feature
  - Integrated with iTunes
- If users publish their own original content, they may earn money through it
- Users are required to accept restrictive license terms



# YouTube – 2005



- Video sharing website that allows users to upload, view, share, comment, and “like” videos
- When users upload a video, they are shown a message asking them to not violate copyright laws
  - YouTube does not screen videos before they are posted, leaving copyright holders responsible for reporting copyrighted videos
- Users do not have the ability to download videos from YouTube, but individuals find ways around that
  - Example: YouTube to MP3 converters
- Many famous artists have been discovered through YouTube
  - Cody Simpson, The Weeknd, Austin Mahone, Carly Rae Jepsen

# Spotify – 2006



- Music streaming, podcast, and video service that provides music content from record labels and media companies
- Two options: Spotify Free and Spotify Premium
- Pays artists based on their “market share”
  - The number of streams of their songs as a proportion of the total songs streamed on Spotify
  - 70% of the payment goes to the rights-holders, who then compensate the artists based on individual agreements
    - Has been said to be as low as \$0.0011 per stream
- In 2014, Taylor Swift removed her music from Spotify
- Spotify has claimed that “given a free and legal alternative, people will pirate less”

# SoundCloud – 2007



- Founded by Swedish sound designer Alexander Ljung and artist Eric Wahlforss in Stockholm
  - Goal was to make a Flickr for musicians
  - Initially wanted to allow musicians to share recordings with other musicians (not the general public)
- Transformed into a global audio distribution platform that allows users to upload and promote their original work
- SoundCloud made collecting DJ sets into something anyone could do
- “YouTube of audio”
- Atmosphere for artists to easily interact with fans
- A way for semi professional artists to grow their own community, bypassing record labels

# Apple Music – 2015



- A music streaming service developed by Apple Inc.
  - Users can select music to stream to their devices on demand
- Allows signed artists and unsigned artists to share photos, videos, posts, and tracks with consumers
- Personalized music recommendations
- Music can be played offline to work with user's data plan
- Cost
  - Free trial for up to 3 months
    - Apple Music agreed to pay the artists during this 3 month free trial after Taylor Swift wrote a public letter refusing to release her music
  - \$9.99/month for individual users
  - \$14.99/month for family subscription (maximum of 6 people)
    - iCloud family sharing required: users share music, apple purchases, photos, and location
- Music industry turned down Apple's request to charge less for Apple Music
- Main difference between Apple Music and iTunes: you don't own the music

# **Apple Music, iTunes Match, And iCloud Music Library**

# But, before all this, was iTunes

“iTunes is the best way to organize and enjoy the music, movies, and TV shows you already have — and shop for the ones you want to get. It’s home to Apple Music, which gives you unlimited access to millions of songs, curated playlists,<sup>1</sup> and Beats 1 radio, hosted by Zane Lowe and a team of acclaimed DJs. Enjoy all the entertainment iTunes has to offer on your Mac and PC.” [Apple]

# PC Mag Review of iTunes

- PRO: Sleek design. Largest catalog of music and video around. Music subscription service. Internet radio with large selection of genres. Excellent Mini Player interface. iCloud integration.
- CON: Large disk-space requirements for a media player. Authorization limit can be a problem for people with many devices. No Web version of Apple Music.
- BOTTOMLINE: Apple's media player and store offers a wealth of entertainment options that make it unmatched in its class. The latest update brings a redesigned streaming music service and music social network.

-- PC Mag

# Why did Apple make a streaming music service?

More and more people are listening to streaming music, and for good reason: When you can listen to just about any artist, genre, and song you set your heart on, it's a lot more enticing than playing the same thousand songs from your personal library.



# iTunes Match

- iTunes Match is limited to 100,000 songs
- iTunes Store purchases made with the same Apple ID being used for iTunes Match don't count towards the 100,000 song limit
- Unmatched content is uploaded as is
- Song files larger than 200 MB won't upload to iCloud
- Song files longer than two hours in length won't upload to iCloud
- DRM finally dropped two years later

## **About file formats**

- If you have songs encoded in ALAC, WAV, or AIFF formats, an AAC 256Kbps version is created and uploaded to iCloud. Your original music file remains untouched on your Mac or PC
- Songs encoded in AAC or MP3 formats that don't meet certain quality criteria aren't matched or uploaded to iCloud
- Songs encoded as MP3 or AAC that have been matched to the iTunes Store are made available for download as 256 kbps as AAC from iCloud
- Matched songs in your local library don't automatically transcode to 256 kbps AAC. To get a higher quality transcoding, download the matched songs from iCloud

# iTunes Match Upload Process

## iTunes Match

- ✔ Step 1: Gathering information about your iTunes library.
- ✔ Step 2: Matching your music with songs in the iTunes Store.
- Step 3: Uploading artwork and remaining songs.**



2 of 214 Items Uploaded



**1663 songs are now available in iCloud.**

To access your iCloud library from your iOS 5 (or later) device, tap Settings, then tap Music, and turn on iTunes Match.

You can continue using iTunes while iTunes Match is in progress.

# Apple Music

- For \$9.99/month (or \$14.99/month for a family plan), Apple Music gives you access to its full music streaming catalog on 10 of your devices. Subscribers can play any song in the Apple Music catalog, whether they own it or not. They also get two customized playlists delivered each week, a New Music Mix and Favorites Mix based on user taste and past-played songs, along with a variety of daily playlist suggestions put together by Apple's music curators. In addition, users can listen to Beats 1, Apple's 24/7 internet radio station, and play back-catalog episodes of Beats 1's various programmed shows.
- Outside of the subscription service, Apple Music lets its users match up to 100,000 songs from their iTunes library (or libraries) to the DRM-free iTunes Store catalog; these tracks can then be streamed or downloaded to up to ten of your other devices. (If Apple Music can't match a track to a song in the iTunes catalog, it'll manually upload it, instead.) Purchased iTunes content doesn't count toward that 100,000 song limit.

# iCloud Music Library

- iCloud Music Library is Apple's service for storing your personal music library online by "matching" your tracks to songs listed on the iTunes Store (or uploading tracks directly, if there's no match available). You can then stream and download them — DRM-free — to up to ten other registered devices in your possession.
- If you subscribe to Apple Music, you'll get iCloud Music Library included as part of your \$9.99 monthly subscription; otherwise, you can subscribe to Apple's iTunes Match service and pay \$24.99 a year to store your iTunes library (up to 100,000 songs) in iCloud.

# iCloud Music Library (Continued)

- **What is iCloud Music Library?**
- It's Apple's term for all the music you've stored in iCloud.
- **Does it count toward my iCloud storage cost?**
- No. You can store up to 100,000 songs with an Apple Music or iTunes Match subscription; it doesn't count toward your iCloud storage costs.
- **Does It work with Apple Music and iTunes Match?**
- Yes, both the Apple Music subscription service and the stand-alone iTunes Match option. iCloud Music Library lets you upload or "match" your personal music library with the DRM-free iTunes Store catalog.
- If you have an Apple Music account, you can take advantage of iCloud Music Library *and* subscription music; if you have a stand-alone iTunes Match subscription, you only have access to your iCloud Music Library.

# Content Stored in iCloud Music Library

- **Matched content:** If you bought Styx's Mr Roboto on Amazon and added those MP3s to your music library, those recordings are "matched" to the Mr Roboto iTunes tracks, rather than manually uploading tracks that the iTunes catalog already has. You can then stream the iTunes versions of these tracks on any device, or download them to your other devices
- **Purchased content:** If you bought Taylor Swift's 1989 on iTunes, you can instantly stream it or download it to any device, with no upload time needed. It also doesn't count toward your 100,000 song limit
- **Uploaded content:** If you recorded Mr Roboto and added that song to your music library, the recording will need to be uploaded to iCloud Music Library first before you can play it or download it on other devices
- **Apple Music content:** If you add an Apple Music subscription track or playlist to your music library, they can now be streamed or downloaded to any of your other devices. It also won't count toward your 100,000 song limit
- Matched, uploaded, and purchased tracks reside in iCloud Music Library, Apple's cloud-based music locker. Users can stream or download these tracks from iCloud Music Library as long as their Apple Music subscription remains active; downloaded tracks will either show up as a 256kbps matched DRM-free AAC file or an AAC-converted file of tracks you uploaded

# What devices can I use to listen to Apple Music?

- iPhone
- iPad
- iPod touch running iOS 8.4 or later
- Apple Watch 1.0.1 or later
- Macs
- PCs running iTunes
- Android
- Apple TV
- Sonos

# How does Apple pay artists when a track is streamed?

When an artist's music is streamed, they're paid a certain monetary percentage per-play. Apple currently pays a certain percentage during a free trial *and* pays a higher premium when the trial is over.



## ROOMS



Kitchen

Group

|| The Sound of Silence - Disturbed



Library

Group

[no music]



Master Bedroom

Group

|| Blurred Lines Radio



Media Room

Group

|| The Sound of Silence - Disturbed



Patio

Group

|| Blurred Lines Radio

## NOW PLAYING (Media Room)



Song [23/1402]  
The Sound of Silence

Artist  
Disturbed

Album  
Immortalized (Deluxe Version)

Next

Say Something - A Great Big World & Christina Aguilera

## QUEUE

1402 songs



monster magnet



Añoranza por la Conga  
Ricardo Leyva & Sur Caribe



Your Touch  
The Black Keys



Hallelujah  
Jeff Buckley



The Sound of Silence  
Disturbed



Say Something  
A Great Big World & Christina Aguilera



Officer's Call  
American Military Band



Adjutants Call  
American Military Band



To Arms  
American Military Band



Charge  
American Military Band



Retreat  
American Military Band

## Select a Music Source



Sonos Favorites



Radio by TuneIn



22tracks



7digital



Amazon Music



Apple Music



Batanga



iHeartRadio



Last.fm



Pandora Radio



Plex



Slacker



SoundCloud



Stitcher SmartRadio



Sonos Playlists



Line-In



Add Music Services

# Competition

# Quick Comparison

## Streaming Music Services: Compared

	Apple Music	Spotify	Tidal	Tidal HiFi	Pandora Premium	Google Play Music
Single User Price per month	\$9.99	\$9.99	\$9.99	\$19.99	\$10	\$10
Family Plan Price per month	\$14.99 for 6 users	\$14.99 for 6 users	\$30 for 5 users	\$30 for 5 users	N/A	\$14.99 for 6 users
Education Price per month	\$4.99	\$4.99	\$4.99	\$9.99	N/A	N/A
Song Catalog	40 million +	30 million +	25 million +	25 million +	40 million +	35 million +
Streaming Quality	256Kbps AAC	320kpbs Ogg	320kbps AAC	1411kbps Flac	N/A	320kbps
Offline?	Yes	Yes	Yes	Yes	Yes	Yes
CarPlay app?	Yes	Yes	No	No	No	No
Apple TV app?	Yes	No	No	No	No	No
Free Trial?	3 months	30 days	30 days	30 days	"Varies"	30 days

# Amazon Music

- Amazon Music Unlimited is the newest kid on the block. It looks to follow in Tidal and Apple Music's footsteps, signing an exclusive contract to release Garth Brooks's latest record. Brooks doesn't have the same hip factor as Drake or Beyonce, but neither does Amazon Music Unlimited. Rather than having a big focus on helping subscribers stay on the cutting-edge of music, the service features recommended playlists and radio stations that are grouped around artists you've already listened to.

## Where it excels

- Cheapest per month -- if an Amazon Prime member
- Lyrics automatically pop up on the "now playing" screen
- Offers cheaper plans for Amazon Echo, Echo Dot and Amazon Tap (but restricts listening to those devices).
- Has music locker, and allows you to "mix and match" music in locker, streaming catalog and Prime Music catalog into one playlist

## Where it falls flat

- Artist profiles don't have biographies
- Officially advertised as "tens of millions" of tracks strong, it's unclear if the catalog is quite as large as its competitors listed here (see chart)

**Best for:** Amazon Prime members who want to save a few bucks, and mix their existing music collection with a subscription content.

# Google Play Music

- Google Play Music works as a streaming music service and a music locker. It allows you to store and stream your entire music library (up to 50,000 songs), as well as stream any of the 30 million songs in its catalog. Instead of playlists, well-curated radio stations are the standout feature of Play Music. Unlike playlists, which are finite and contain specific tracks, radio stations play endlessly and are updated often. What makes these stations unique from other services is that you can view the entire track list and save it as a playlist.

## **Where it excels**

- This hybrid service seamlessly integrates your personal collection with the streaming catalog
- Monthly fee includes subscription to YouTube Red: commercial-free streaming on YouTube and YouTube Music
- Offers music locker service for free

## **Where it falls flat**

- It's not great for discovering new releases because it emphasizes stations and recommended music
- The design of the mobile apps for Android and iOS is a bit messy and overwhelming

**Best for:** Google fans who want to blend the music they've purchased with streaming selections

# Spotify

- Spotify was one of the first streaming services to crop up. It's highly lauded for its Discover Weekly playlist, a custom-made two-hour long batch of recommended music that's curated to your specific taste. Thanks to its Facebook integration, it's also great for sharing music. The abilities to send a track/album, collaborate on playlists with friends, or lurk what your Facebook friends are listening to are all built into the Spotify app.

## Where it excels

- Free version is impressively robust
- It's easy to build your own playlists and sync them for offline listening
- User-friendly apps that are updated frequently and have enough features without being overwhelming
- Allows you to follow artists to be alerted when they release new music or announce an upcoming show
- Highly personalized custom playlists

## Where it falls flat

- Advertisements in the free service can be intrusive.
- With a free account, you can only shuffle songs in the mobile apps.

**Best for:** People who love to make, browse, and share playlists for any scenario Also, anyone who wants to stream unlimited music for free.

# Tidal

- Launched by hip-hop mogul Jay Z, Tidal is the only streaming music service that offers high-fidelity streaming. Its superior sound quality is similar to what you would get on CDs and other physical media formats. Like Apple Music, Tidal has a leg up on other services with exclusives. The difference is that the exclusive content on Tidal is usually from one of its superstar co-owners.

## **Where it excels**

- High-fidelity music streams
- Lots of video content, including concert livestreams
- Exclusive songs and playlists from names like Beyonce, Kanye West, and Jay Z
- Full Prince and Neil Young discographies (unavailable on other services)
- Offers occasional ticket pre-sales
- Big focus on under-the-radar artists

## **Where it falls flat**

- The mobile apps and Web player are both cluttered with too much information on the screen, making them hard to use
- The mobile apps have bugs and stability issues

**Best for:** Musically inclined purists who care deeply about sound quality and discovering new, up-and-coming artists