

Music, the Internet, and APIs

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Outline

- 1 Introduction
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 - Publishing
 - Outreach
- 3 The Internet for Music consumers
 - Listening
 - Socialising
- 4 The Internet for music developers
 - What's an API?
 - The Internet and music APIs
 - What you can make

- Background in Computer Science
- Masters McGill Music Tech
- Musician
- Programmer
- Online
 - <http://github.com/alastair> (18/26 projects music related)
 - <http://twitter.com/alastairporter>

The Internet for Music creators

- A record deal is no longer a requirement for making an album.
- Record it on your computer
 - Pro Tools
 - Garageband
 - Ardour (\$0)
- Release it online

Where to publish

- MySpace
- Bandcamp (<http://bandcamp.com>)
- CDBaby (<http://cdbaby.com>)
- iTunes
- Amazon (<http://mp3.amazon.com>)

Connecting to fans

- Twitter
- Facebook

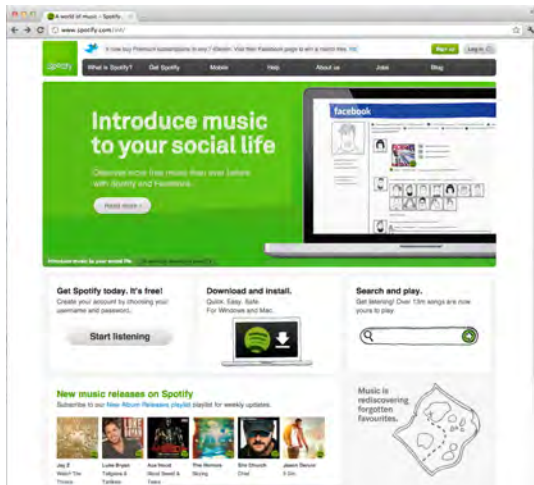
Fans can send a message to their favourite artist, and get a response back.

The Internet for Music consumers

- Millions of songs available to listen to
- Try before you buy
- The long tail
- Recommendation systems (collaborative filtering)
 - Other people who listen to Katy Perry also listen to Lady Gaga

Online music services

Rdio, Spotify, 7Digital, iTunes



The long tail

Music for anyone



<http://longtail.com>

Who likes death metal songs about whales?

The screenshot shows a web browser displaying the Music Machinery blog. The page title is "Genre of the week: whalecore". The main content area features a video player with the title "AMAB - THE HUNT" and a thumbnail image of a whale breaching the ocean. The video player shows a progress bar at 01:00 / 01:00. The right sidebar contains a "TOP POSTS" section with a list of links, a "SEARCH" box, and a "CATEGORIES" section with a list of tags. The "CATEGORIES" list includes: Code, Data, Events, Frequentation, Fun, humor, Java, Music, Music Information Retrieval, Personal, Playlist, Processing, and Recommendation. A "Follow" button is located at the bottom right of the sidebar.

Genre of the week: whalecore

See this post by [MusicMachinery](#) on the Last.fm [original photo metal forum](#)

AMAB - THE HUNT
by [MusicMachinery](#)

01:00 / 01:00

MUSIC MACHINERY
Welcome to Music Machinery – the blog about the interface of music and technology written by Paul Lamont. [@musicmachinery](#)

TOP POSTS

- [MusicMachinery: The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)
- [The 100 Best](#)

CATEGORIES

- [Code](#)
- [Data](#)
- [Events](#)
- [Frequentation](#)
- [Fun](#)
- [humor](#)
- [Java](#)
- [Music](#)
- [Music Information Retrieval](#)
- [Personal](#)
- [Playlist](#)
- [Processing](#)
- [Recommendation](#)

[Follow](#)

Online interaction

Go out without needing to go out: <http://turntable.fm>



Songkick: Learn about gigs



<http://songkick.com>

MusicBrainz



<http://musicbrainz.org>

- Metadata about artists and albums
 - 600,000 artists
 - nearly 1 million albums
- Wikipedia for music and musicians
- Who knew who? Who played with who?
- Rip CDs to MP3 and organise them (MusicBrainz Picard)
- High quality metadata

The screenshot shows the MusicBrainz website interface. At the top, there's a navigation bar with links like "Albums", "Songs", "Producers", "Search", "Discography", and "Credits". Below this, the main header features the MusicBrainz logo and a search bar. The central content area is titled "The Beatles" and includes tabs for "Overview", "Recordings", "Works", "Relationships", "Aliases", "Tags", "Details", and "Edit". The "Relationships" tab is selected, showing the "founding members" section with a list of the Beatles' members and their lifespans. To the right, there's a sidebar with "Artist information" (Real name, Type, Founded, Dissolved, Country), "Rating" (a star rating system), "Tags" (a list of tags), "External links" (a list of links to other websites), and "Attributes" (a list of attributes).

The Beatles
Group

Overview | Recordings | Works | Relationships | Aliases | Tags | Details | Edit

Relationships

founding members: George Harrison (The Beatles) (- 1970-04-10)
members: John Lennon (- 1970-04-10)
 Paul McCartney (- 1970-04-10)
 Stuart Sutcliffe (1962 - 1962)
 Pete Best (original drummer in The Beatles) (1960-08-12 - 1962-08-16)
 Ringo Starr (1962-08 - 1970-04-10)

founded: Apple Records

aliases: <http://idolmusic.com/artists/25644> [info]

BBC Music: <http://www.bbc.co.uk/music/artists/19100000-offe-42d0-ba17-e23c3d42d000> [info]

Discogs: <http://www.discogs.com/artist/TheBeatles/> [info]

IMDb: <http://www.imdb.com/name/nm0000001/> [info]

MusicBrainz: <http://musicbrainz.org/artist/00000000-offe-42d0-ba17-e23c3d42d000> [info]

MySpace: <http://www.myspace.com/thebeatles> [info]

Wikipedia: en: The Beatles [info]

YouTube channel: <http://www.youtube.com/user/thebeatles> [info]

fan pages: <http://www.facebook.com/thebeatles> [info]
<http://www.twitter.com/thebeatles> [info]
<http://www.instagram.com/thebeatles> [info]

lyrics page: http://lyrics.wiki.com/The_Beatles [info]

microblogs: <http://twitter.com/thebeatles> [info]

official homepages: <http://www.thebeatles.com/> [info]


social networking: <http://www.facebook.com/thebeatles> [info]

Appearances:

Date	Title	Artist
	sample from artist	
	Musique Constant	Kevin McCreary
	The Magic Is Beginning to Work!	Kevin McCreary
	tribute	
	A Beatles Tribute: Number One Again	Various Artists
	A Tower Records Tribute to the Beatles	Various Artists
	Album Vanda: Tribute Reggae to The Beatles	Various Artists
	All the Need to Live: Reggae Songs for Kids	Various Artists
	Beat on the Beatles	Count Basie & His Orchestra
	Beatle Hits Flamenco Guitar Style	Sonny Curtis
	Beatles	Emmerson Nogueira
	Beatles Classics	Enoch Light
	Boston Does the Beatles	Various Artists
	Boston Does the Beatles	Various Artists
	Boyz n the Beat: A Headbanging Tribute	Various Artists
	Campo de Fresas: Desfretando con las canciones de los Beatles	Various Artists
	Come Together - Beatles Tribute to Beatles	Various Artists
	Come Together - Beatles Tribute to the Beatles	Various Artists

The Internet for music developers: APIs

- Application Programming Interface
- An API is a special interface that makes it easy for computer programs to get information from another computer system
- Compare this to a webpage, which makes it easy for people to get information from a computer system


[The Beatles](#) - [Artists](#) - [Albums](#)

[musicbrainz.org/artists/9200b6e6-e6fa-42e0-ba17-e23e16209064/relationships](#)

[Home](#)
[About](#)
[Help](#)
[Search](#)

[About](#)
[Stats](#)
[Prefs](#)
[Search](#)
[Browse](#)
[History](#)
[Recent](#)
[Add](#)

[Log In](#)
[Create Account](#)

The Beatles

Group

[Overview](#)
[Artists](#)
[Recordings](#)
[Works](#)
[Relationships](#)
[Aliases](#)
[Tags](#)
[Details](#)
[Edit](#)

Relationships

Recording members: [George Harrison](#) ([The Beatles](#)) (- 1970-04-10)

members: [John Lennon](#) (- 1970-04-10)

[Paul McCartney](#) (- 1970-04-10)

[Stuart Sutcliffe](#) (1962 - 1962)

[Pete Best](#) (original drummer in [The Beatles](#)) (1960-08-12 - 1962-08-18)

[Ringo Starr](#) (1942-08 - 1970-04-10)

Founded: [Apple Records](#)

Aliases: [http://www.bbc.co.uk/1/hi/arts/3644324.stm](#)

BBC Music: [http://www.bbc.co.uk/1/hi/arts/3644324.stm](#)

Discogs: [http://www.discogs.com/artists/beatles,+the/](#)

Lyrics: [http://www.lyrics.com/album/397913/beatles](#)

MusicBrainz: [http://musicbrainz.org/artist/9200b6e6-e6fa-42e0-ba17-e23e16209064/relationships](#)

MySpace: [http://www.myspace.com/thebeatles](#)

Wikipedia: [en: The Beatles](#)

YouTube channels: [http://www.youtube.com/user/thebeatles](#)

fan pages: [http://www.aboutthebeatles.com/](#)

[http://www.officialbeatlesclub.co.uk/](#)

[http://www.dmrbeatles.com/](#)

lyrics page: [http://lyrics.wikia.com/The_Beatles](#)

microblog: [http://twitter.com/thebeatles](#)

official homepage: [http://www.thebeatles.com/](#)

social networking: [http://www.facebook.com/thebeatles](#)

Artists information

Real name: [Beatles](#), [The](#)

Type: [Group](#)

Founded: [1957](#)

Discovered: [1970-04-10](#) (13 years)

Country: [United Kingdom](#)

Rating: [9.9/10](#) (see all ratings)

Tags: [beatles](#), [rock](#), [pop](#), [british](#) (view all tags)

Editing: [+ Log in to edit](#)

External links:

- [Official homepage](#)
- [BBC Music](#)
- [Discogs](#)
- [iMdb](#)
- [LyricWiki](#)
- [Microblogs](#)
- [MySpace](#)
- [The Beatles](#)
- [on the Beatles](#)
- [on the Beatles](#)
- [on the Beatles](#)

Additional links:

[Search on SoundCloud](#)

[Last.fm](#) [Last.fm](#) [Last.fm](#) [Last.fm](#)

Who makes APIs?

(a partial list)

- Amazon
- Google
- Facebook
- Twitter

Music APIs:

- Echo Nest
- Last.fm
- MusicBrainz

If you're a company then you need to pay for access, but if you're just playing around then it's usually *free*.

The Echo Nest



<http://the.echonest.com>

- They read about music
- Who is talking about this song?
- Who is talking about artists together?
- Information about artists
 - News
 - Biographies
 - Pictures
 - Music
- This person on wikipedia is that person on Facebook
- R.E.M. is the same as REM
 - Led Zep
 - GnR
- Hottnesss

The Echo Nest

Who are the hottest artists being discussed at the moment?



<http://hotttnesss.com>

The Echo Nest

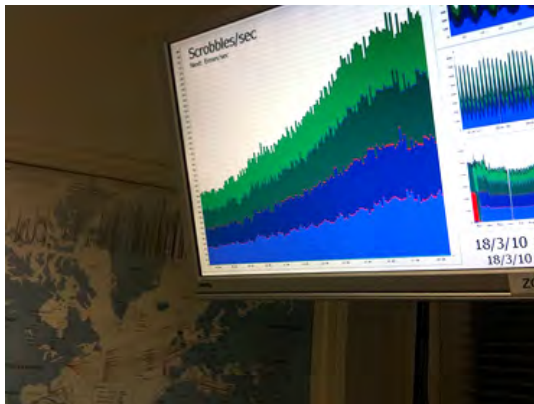
- They listen to music
- Fingerprinting
- Audio characteristics
 - What key is it in?
 - What's the tempo?
- Danceability
- Where are the beats? (the swinger)



`http://last.fm`

- Social information about music
- Artist Bios
- Tags
- Gigs
- Scrobble
 - Top tracks
 - Recommendations
 - The charts

Scrobbles per second (currently about 800/second)



<http://blog.last.fm/2010/03/19>

Soundcloud



<http://soundcloud.com>

- Automatically upload music to Soundcloud from an app
- Play it from any website

Other music APIs

- MusiXmatch: Lyrics (<http://musixmatch.com>)
- Songkick gigs (<http://songkick.com>)
- Grooveshark: Online music player (<http://grooveshark.com>)
- MusiXmatch: Lyrics (<http://musixmatch.com>)
- 7Digital: MP3s for sale (<http://7digital.com>)
- Ticketfly: Ticket sales/gigs (<http://ticketfly.com>)

These sites can be used by consumers or developers

Music Hack Day

What can you do with all of these APIs and 24 hours?



15 venues around the world in under 3 years

- Boston
- New York
- San Francisco
- London
- Berlin
- Amsterdam
- Montreal (last month)

Hundreds of hacks made.

Scrobbyl

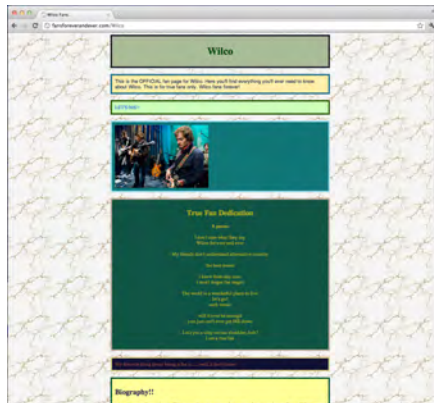
How do you tell last.fm what you are listening to when it's not on your computer?



<http://scrobbyl.com>

Fans forever and ever

Whatever happened to the old fan pages on geocities?



<http://fansforeverandever.com>

Six degrees of Black Sabbath

Kevin Bacon for music. Based on MusicBrainz relationship data



<http://labs.echonest.com/SixDegrees>

Add songs to a party playlist via txt message

djtxt Jukebox

SMS: Register by texting #demo YourName to 313-3-GO-LIVE (313-346-5483). Once you have registered, you can text a song request to the same number.

Twitter: Add music by tweeting @djtxtme Song Request #demo

Email: Register by emailing #demo YourName to dj@djtxt.me. Once you have registered, you can send a song request to the same email address.

This is a free shared public session of djtxt with SMS responses disabled. To arrange a private session for your party, please read the FAQ.

New DJ
matt joined the party

New Song
Yoshie requested me under the table

People in this party: djbob, matt, kyle, mack, phatness, jen and 5 more.

<p>Hold It Against Me Britney Spears Added by natalie</p>	<p>Maps Yeah Yeah Yeahs Added by joe</p>	<p>Float On Modest Mouse Added by jen</p>	<p>Firework (Fred Falke Extended) Katy Perry Added by phatness</p>	<p>Intergalactic Beastie Boys Added by mack</p>
<p>Magic Ilse B Added by djbob</p>	<p>Barbara Streisand Duets Encore Added by kyle</p>	<p>Ice Ice Baby Glue Card Added by matt</p>		

- To skip to the next song, text **skip** - To cancel your last request, text **stop** - Party over? Send your guests this [PlayList Request](#)

<http://djtxt.me>

AutomaticDJ

Don't even ask them what songs they like. Automatically guess it based on your facebook profile



<http://wiki.musichackday.org/index.php?title=AutomaticDJ>

Danceability

Theory: Dancing without moderation suggests a peak of irrational exuberance. When dancing reaches a maximal level, the market may be overvalued.



[http://evolver.fm/2010/10/18/
musics-danceability-predicts-stock-market](http://evolver.fm/2010/10/18/musics-danceability-predicts-stock-market)

The wubmachine

Automatically add dubstep to any song



<http://the.wubmachine.com>

“Developers are the new gatekeepers of music”
—Dave Haynes (Soundcloud, Music Hack Day)

More links

evolver.fm: Daily news about music apps and APIs

Music Hack Day: <http://musichackday.org>

Music Machinery (Paul Lamere): A blog about music technology. <http://musicmachinery.com>

The swinger: <http://soundcloud.com/plamere>

More Cowbell: <http://morecowbell.dj/>