Music, the Internet, and APIs

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Outline

Me

- 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`)

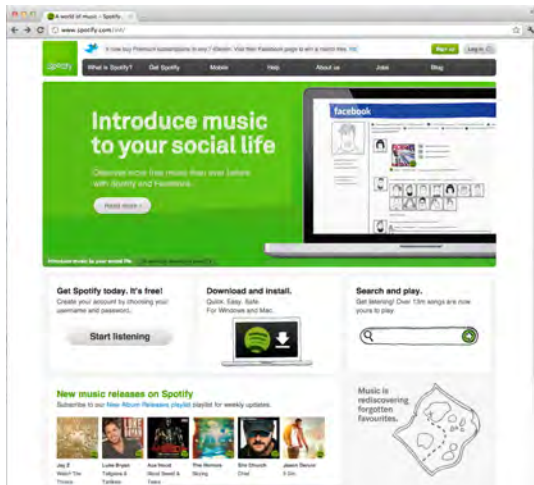# Connecting to fans

- 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

Music for anyone

`http://longtail.com`

Whalecore

Who likes death metal songs about whales?

Online interaction

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

Gigs

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

MusicBrainz

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

MusicBrainz

What does MusicBrainz look like to a developer?


```
http://musicbrainz.org/ws/2/artist/
b10bbbfc-cf9e-42e0-be17-e2c3e1d2600d?inc=artist-rels
```

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
- Hotttnesss

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 charactistics
  - What key is it in?
  - What's the tempo?
- Danceability
- Where are the beats? (the swinger)

Last.fm

`http://last.fm`

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

Last.fm

Scrobbles per second (currently about 800/second)

`http://blog.last.fm/2010/03/19`

Soundcloud

`http://soundcloud.com`
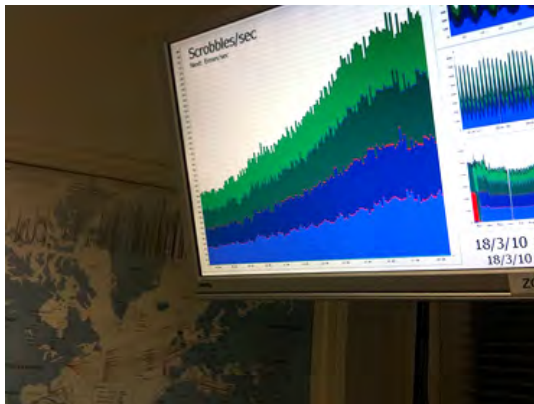
- Automatically upload music to Soundcloud from an app
- Play it from any website

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 Fancisco
- London
- Berlin
- Amsterdam
- Montreal (last month)

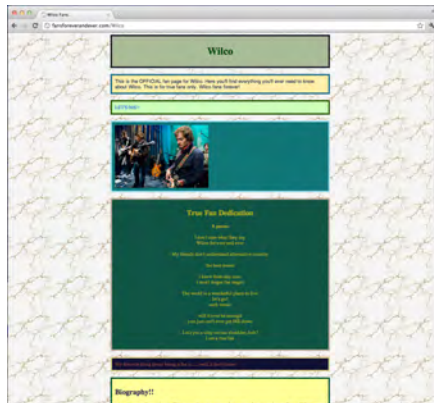Hundreds of hacks made.

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

DjTXT

Add songs to a party playlist via txt message

`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.

Cumulative Returns: Danceability Index

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/