

Scale music understanding

Whitman

founder & CTO, The Echo



echo nest

Whitman.



1. It's easy to stay updated on an
v **@bwhitman.**

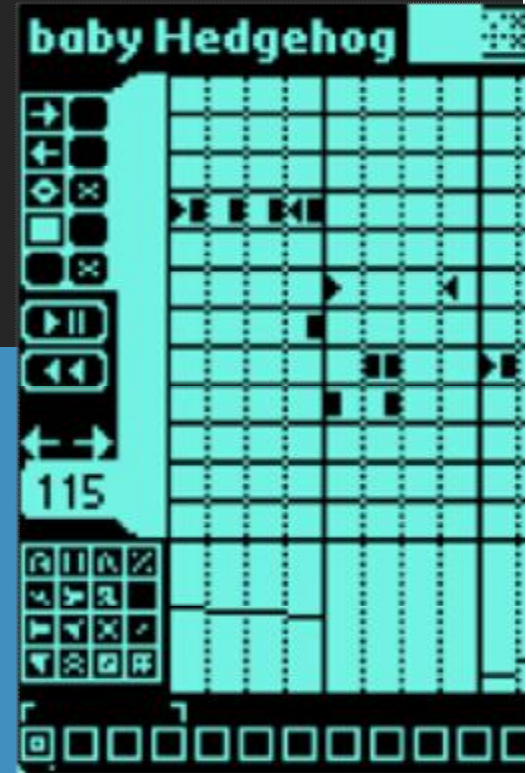
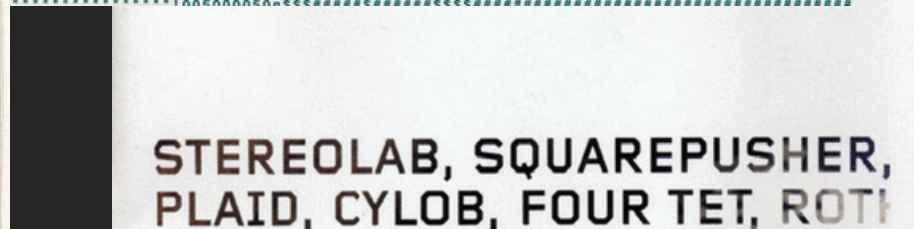
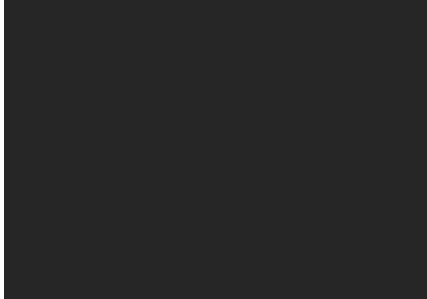
ng follow **bwhitman** to **40404** In the United States
Codes for other countries

Name Brian Whitman

Location Cambridge MA, USA

Web <http://notes.vari...>

Bio teach computers to
listen to music. co-founder
of the [Art of the](#)



Filename	Filesize	Bitrate	Frequency	Length
apster06062001				
panishHay				
Zion I - critical.mp3	3,798,959	128	44100	3:51
Yuji Oniki - paper tigers.mp3	3,505,970	128	44100	3:33
Young Scott Perrie - everytime.mp3	4,957,964	320	44100	2:01
Wonderlick - right crazy rough mix.mp3	4,572,891	128	44100	4:39
Willard Grant Conspiracy - christmas in nevada.mp3	3,579,530	128	44100	3:38
Unknown - coconuts.mp3	4,856,236	128	44100	4:56
Wellwater Conspiracy - of dreams.mp3	3,466,264	128	44100	3:31
Waco Brothers - fox river.mp3	3,903,738	128	44100	3:58
Vivendo de Pao - riso de gilberto.mp3	3,377,656	128	44100	3:26
Vivendo de Pao - jacare.mp3	3,166,169	128	44100	3:13
Virgil Shaw - water cooler.mp3	4,988,928	128	44100	5:04
Virgil Shaw - volvo ff.mp3	3,220,086	128	44100	3:16
Unknown - next degree.mp3	4,062,125	128	44100	4:07
Unknown - are we people.mp3	2,932,736	96	44100	3:58
Trail of Dead - mistakes and regrets merge.mp3	3,631,104	128	44100	3:41
Tom Heyman - bottle full of wishes.mp3	4,008,229	128	44100	4:04
Tom Armstrong - thinking of him.mp3	2,671,723	128	44100	2:43
Tom Armstrong - looking forward to looking back.mp3	3,475,877	128	44100	3:32
tobyslater - the next life.mp3	3,089,870	128	44100	3:08
Unknown - sky is not crying.mp3	6,891,439	128	44100	7:00
The Rosenbergs - sucking on a plum.mp3	3,120,193	128	44100	3:10
The Rosenbergs - soaked in polyester.mp3	4,795,374	128	44100	4:52
The Rosenbergs - secret.mp3	4,147,955	128	44100	4:13
The Rosenbergs - overboard.mp3	6,839,612	128	44100	6:57
The Rosenbergs - little lie.mp3	2,911,214	128	44100	2:57

User: napster06062001

Total Files: 262

File Data: 1,014 megs

Ping: N/A

[Get Selected Files](#)[Add User to Hot List](#)

ne (rishdeep): Sharing 0 files.

Currently 89,910 users sharing 138,637 files (549 gigs)

ED IT
MOVIE
ABOUT

PARANORMAL ACTIVITY

GET TICKETS & SHOWTIMES

dashboard ↓

Artist or Track

Search Blogs

t Amazon,

Or try searching [Black Diamond Heavies](#) next »

After searching for Sugarplastic another user searched for black diamond heavies, want to try it?



tle bands is The
[full post »](#)





Psychic Stunts - Something to Tell My K...

Discovered by ClassyLassy and commented 3 times

1065

[download](#) [save](#) [similar](#) [share](#)

[comments](#)

[watch video](#)

[hearted by](#)

[share this](#)

[similar](#)

listeners who enjoyed this song also liked:

	The End by Laura Jansen	1.000
	Ask Me A Question by minipop	0.833
	Nattöppet by Detektivbyrån	0.802
	Harold T. Wilkins by Fanfarlo	0.796
	The Times by Verbal and The Kickdrums	0.794
	Your Surrender by Temple Scene	0.756
	Home Sweet Home by Detektivbyrån	0.653
	Dansbanan by Detektivbyrån	0.653
	Lyckans Undulat by Detektivbyrån	0.653
	E18 by Detektivbyrån	0.653
	Neonland by Detektivbyrån	0.653
	Om Du Möter Varg by Detektivbyrån	0.653



Artist: [Aaron Neville](#)
Album: [Tell It Like It Is \[Aim\]](#)
88 %

More options



Preview similar tracks



[Tubular Bells I \(Full Album\)](#)
Artist: [Mike Oldfield](#)
87 %

Buy
 More options



Preview similar tracks



[Boo Hoo](#)
Artist: [Bert Kaempfert](#)
86 %

Buy
 More options



Preview similar tracks



[Der Gnom](#)
Artist: [Mussorgsky, Modest Peter](#)
86 %

Buy
 More options

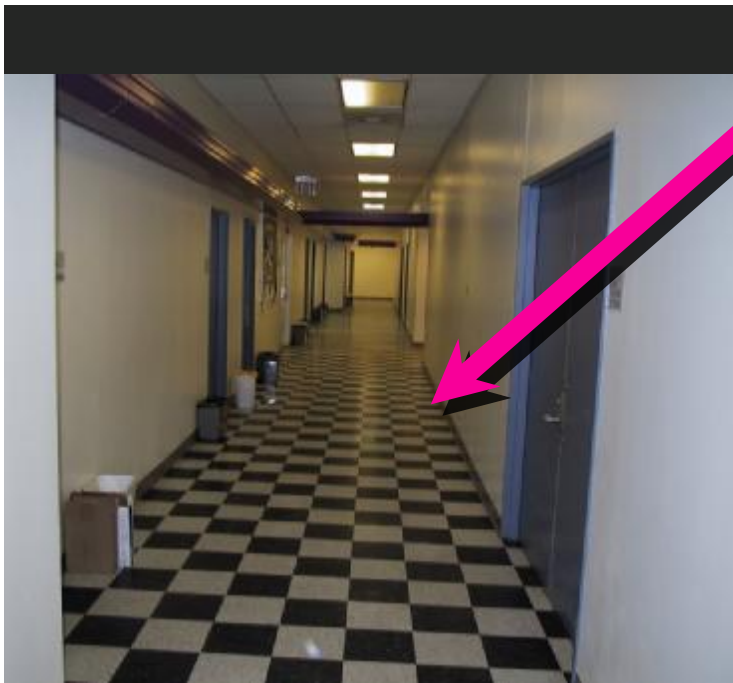


Preview similar tracks



[A Lovely Way To Spend An...](#)
Artist: [Engelbert Humperdinck](#)
Album: [Red Sails in the Sunset](#)
85 %

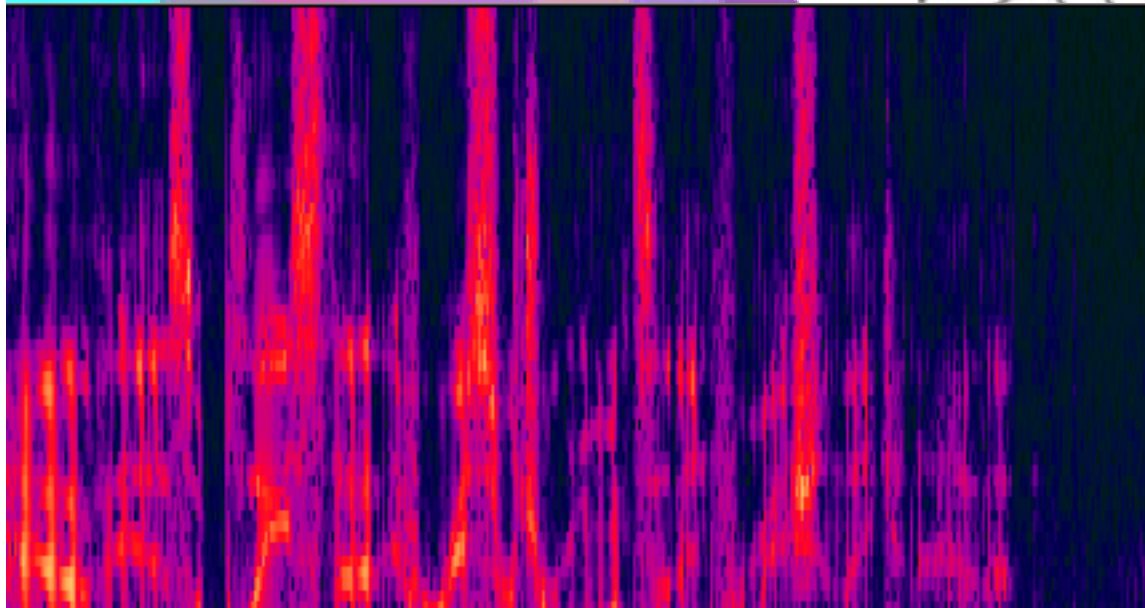
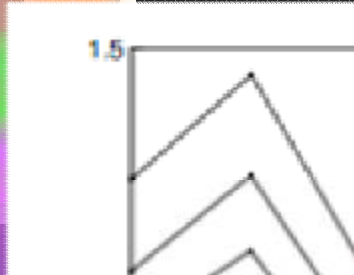
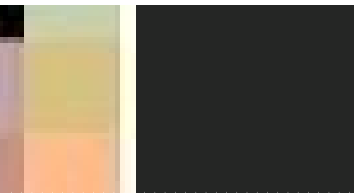
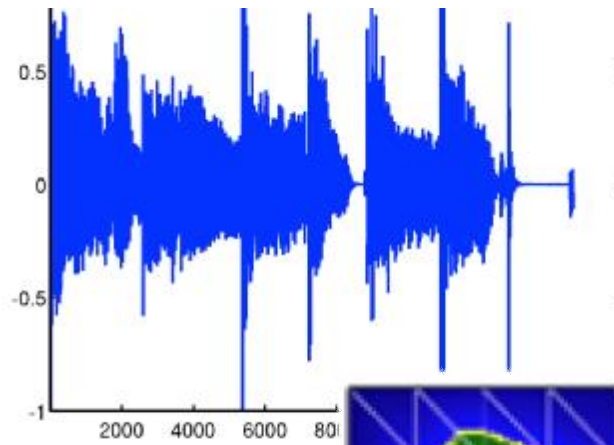
Buy
 More options



MIT Media Lab

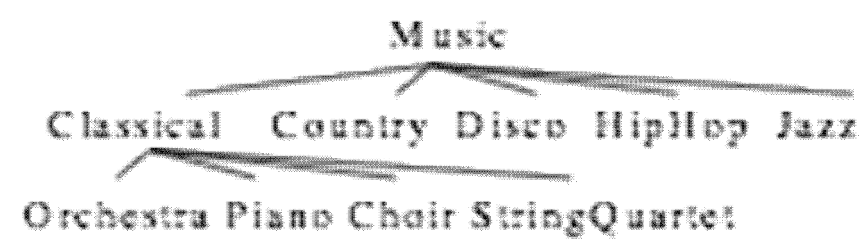
finishing my diss





blues reggae
country

classical roc



A collection of small, low-resolution images arranged in a grid-like fashion. The images include a person, a car, a person in a car, a person, a person, a person, a person, a person, a person, a person, and a person. The images are small and appear to be thumbnails or low-quality scans of various subjects.

Hit prediction

Taste / recommendation

Automated composition

Classification, tagging

Feature extraction (key, tempo)

Search & retrieval



CLICK TO RUN
IT NOW FROM

 **insound**

Keith Fullerton Whitman

Playthroughs

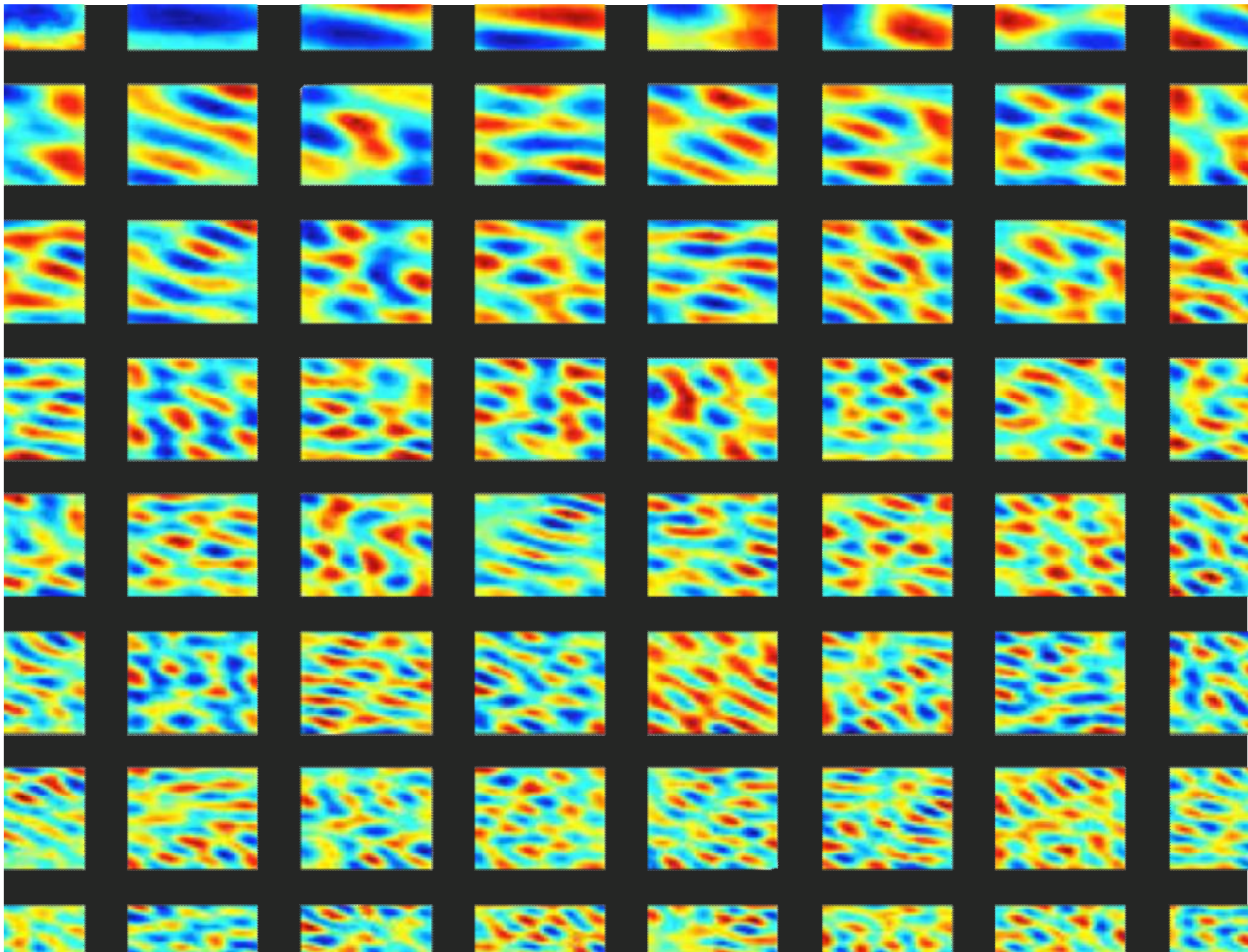
[Kranky; 2002]

Rating: 9.7

You probably know Keith Fullerton Whitman as breakcore maven Hrvatski, a man who played in a few bands before developing an obsession with Squarepusher and deciding to probe the most hectic beats possible on labels such as Planet μ and his own Reckankreuzung, as well as falling into the Tigerbeat6 orbit. You also may know Hrvatski by his pithy electronic music write-ups for the Forced Exposure website, penned while he worked in sales for the revered distributor. But the Keith Fullerton Whitman of *Playthroughs* has kept a lower profile. Starting last year with the *21:30 for Acoustic Guitar* EP, Whitman began experimenting with subtle music based on laptop-processed guitar tones. While he's tinkered with this approach here and there, *Playthroughs* is his first sustained exploration of quiet sound.

If you've listened to the more drone-focused side of electronic music in the last few years, you've definitely heard the core elements that make up *Playthroughs*. There is no radical breakthrough in texture here, nothing to make you turn your head and say, "What the hell was that?" *Playthroughs* consists entirely of processed guitar, but the tones are light on harmonics, with many possessing an almost sine wave-level of clarity. As the thin drones hang in the air and shift this way and that, they harmonize with other drones and find themselves poked with fuzzy implements of static. Nothing terribly earth-shattering about this composition method.

It's true that much of *Playthroughs* seems familiar on the surface, but I don't think it an exaggeration to say that this record essentially perfects this particular style of music. It's an album of meticulous balance, Zen focus, and tiny gestures that carry great force, where each individual piece of sound is carefully placed to maximize impact. The first 3½ minutes of "feedback zwei", for example, consists of overlapping blankets of clean, piercing electronic feedback that remain in constant motion, creating new harmonic patterns with each passing second. And an unexpected cloud of pink noise slowly envelops the sound field, bathing the





Set A

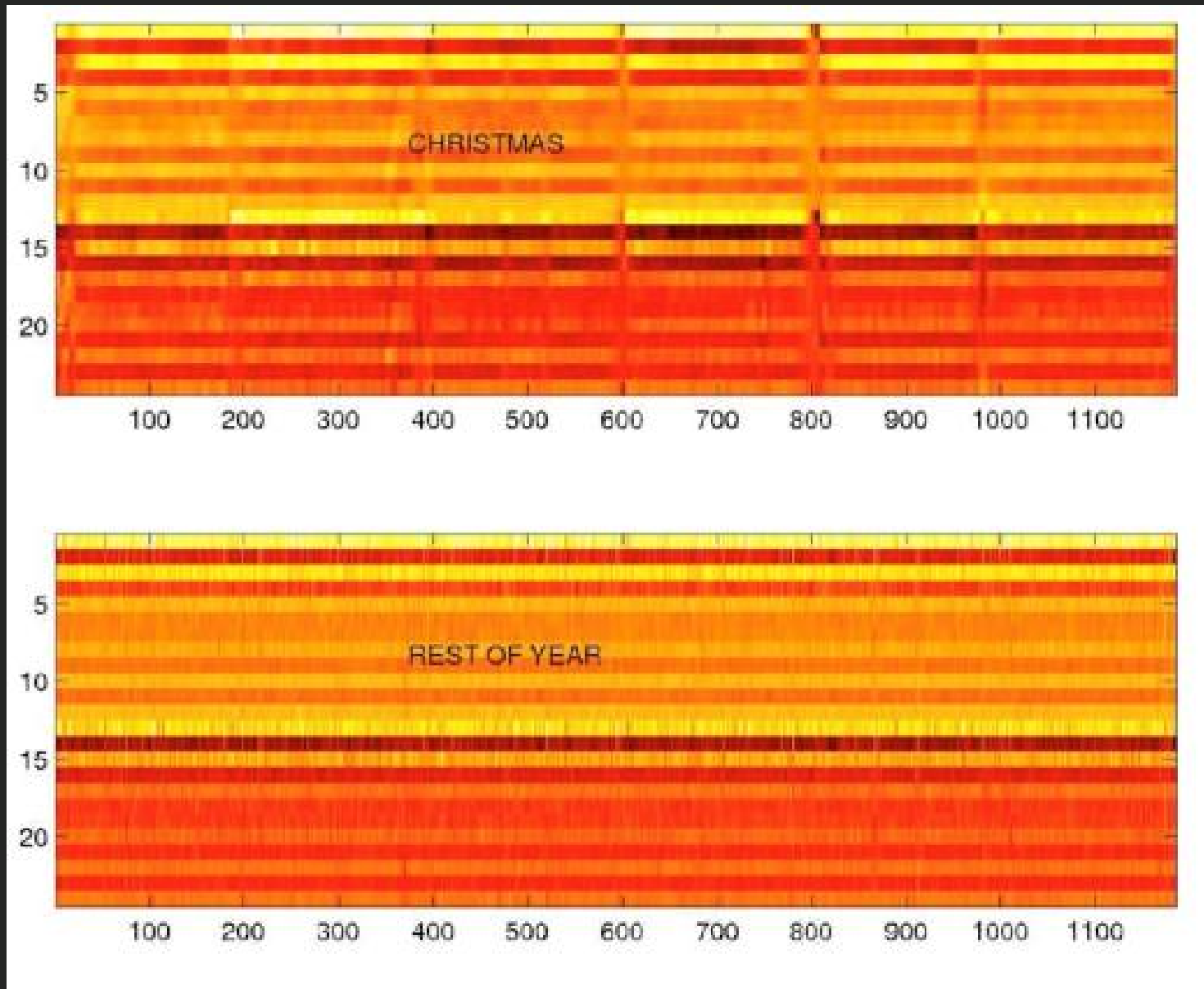
Britney Spears
Backstreet Boys
Christina Aguilera

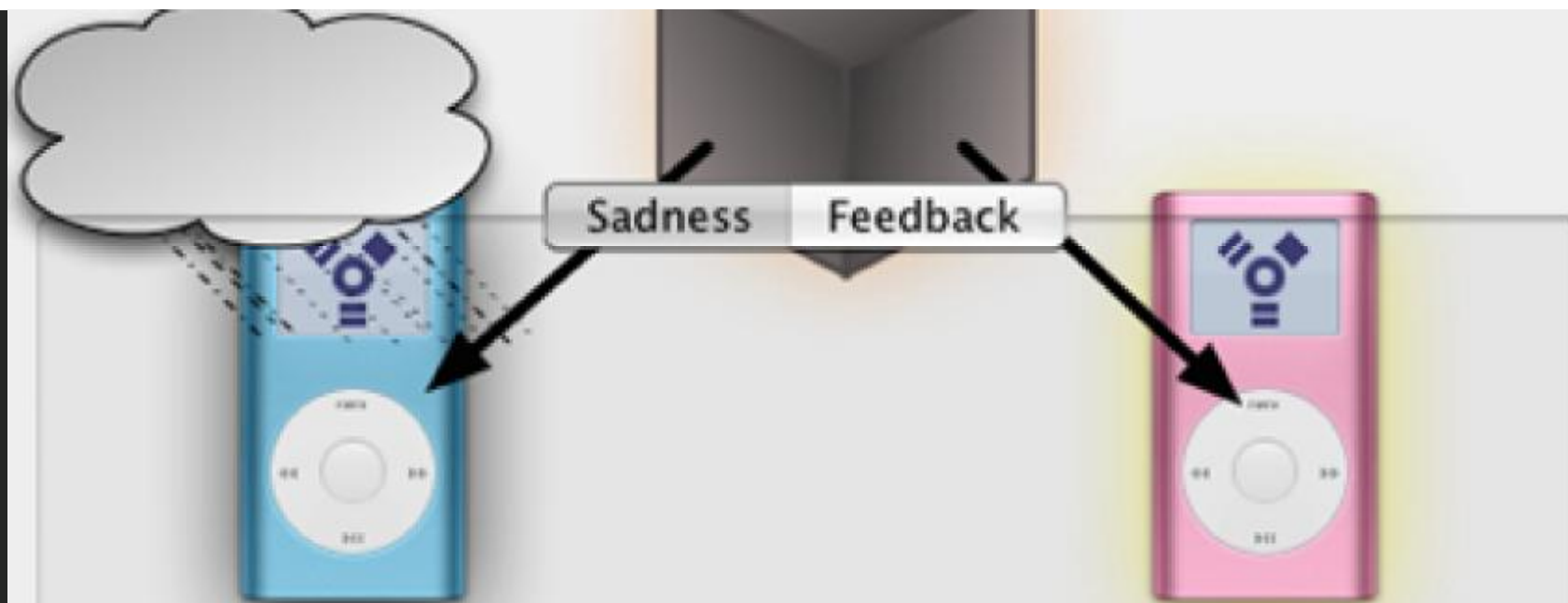
Set B

Alice in Chains
Korn
Faith no More

Set C

Chris Isaak
Bob Dylan
Crowded House





Open iTunes and select the songs whose sadness you wish to catalog. They can be on an iPod or in your library. When you have selected your target songs, come back to this dialog and click the "Detect Sadness" button below.

☒ Add detected songs to their respective sad / not sad playlists

You can also create Smart Playlists involving sadness by selecting Grouping fields containing SDx (for sad songs) and SDy (for not sad songs.) See the documentation for more information.

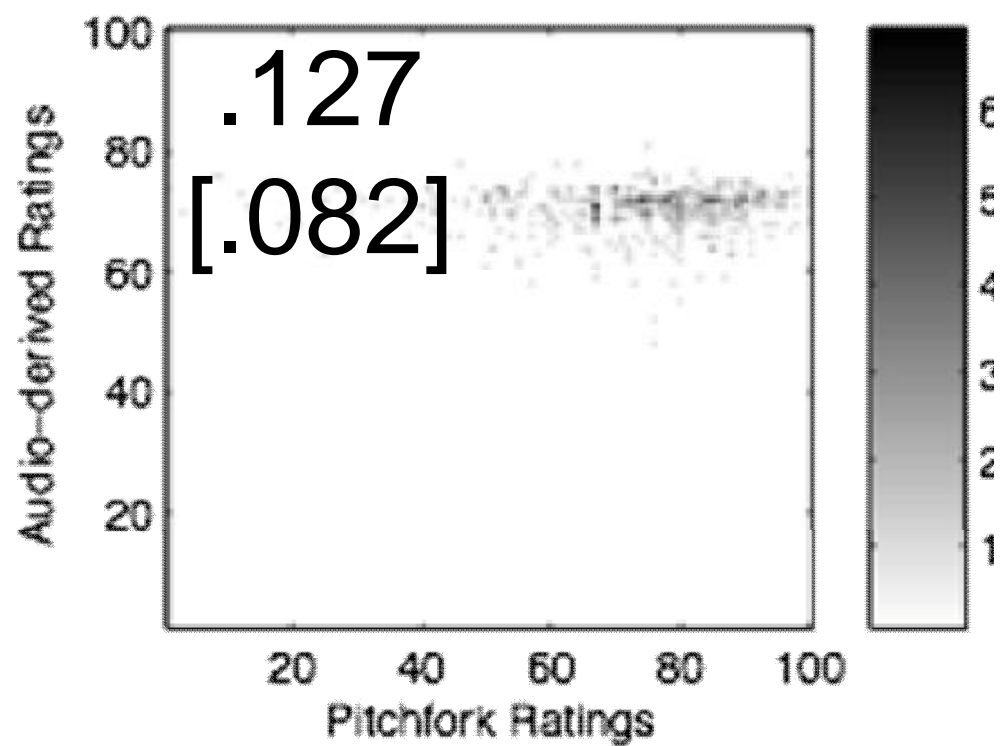
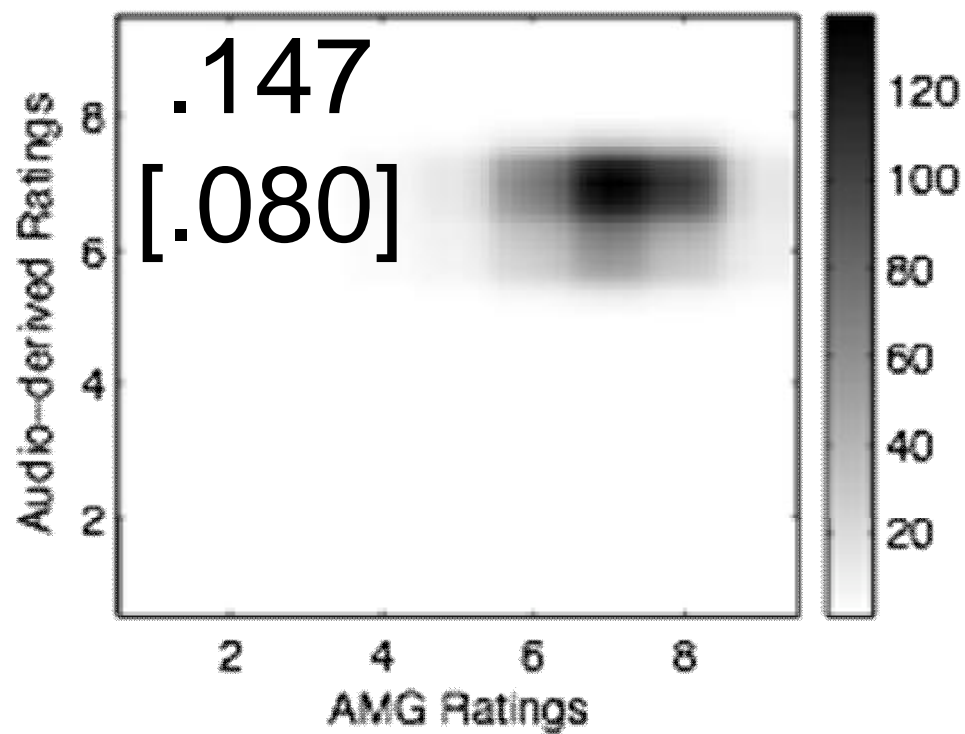
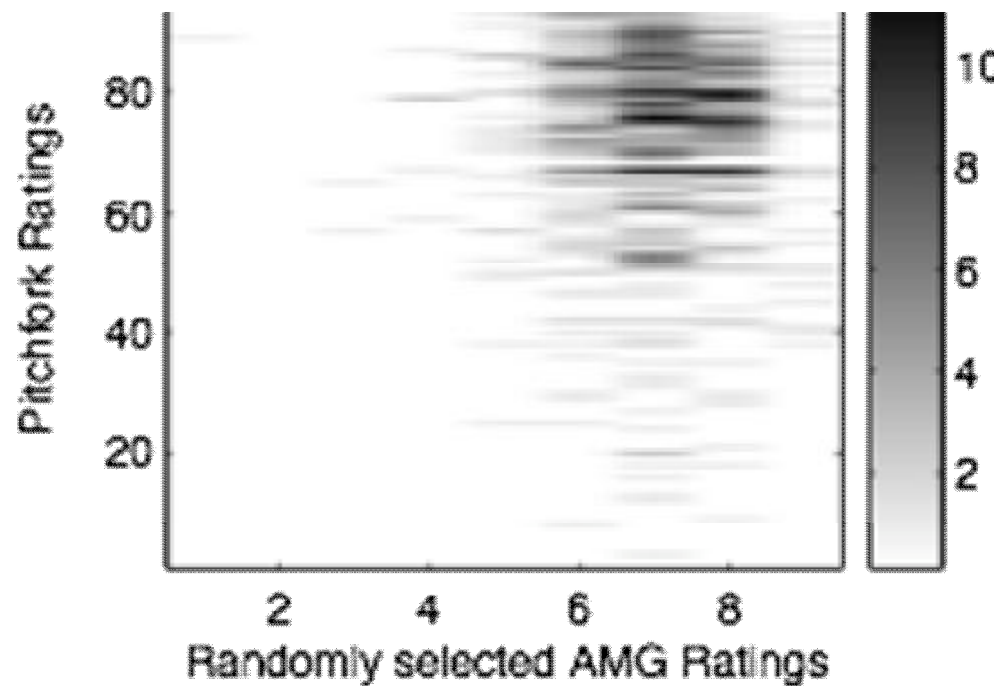
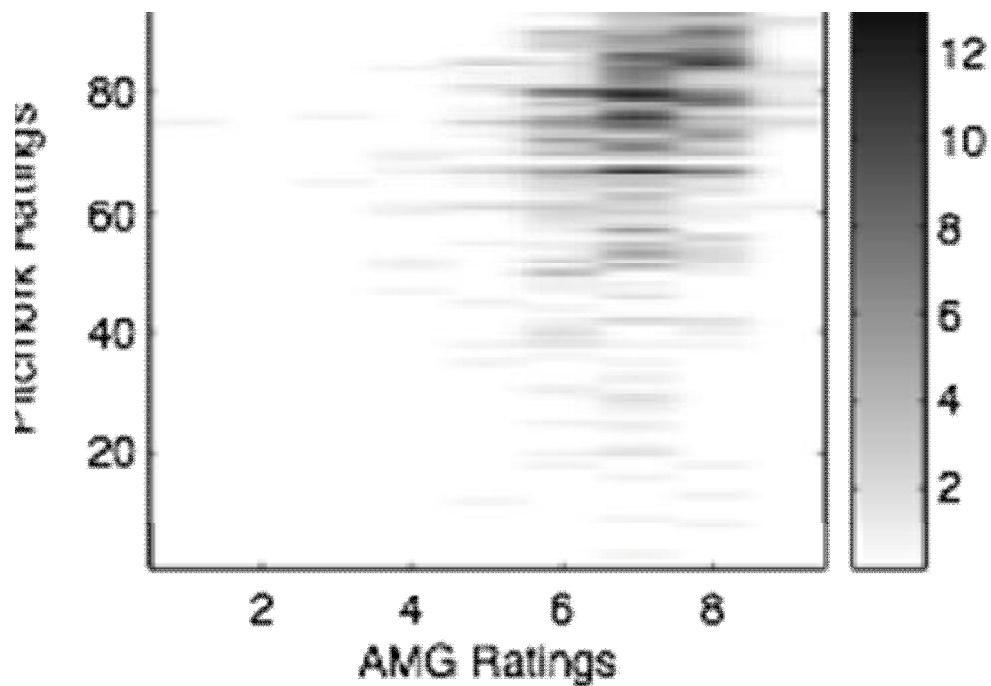
Detect Sadness

Please note: I may append to some of the grouping tags on your music. This is normally not a problem, but if you are worried please run sadness detection on a few songs to see what happens.

I don't currently have a sadness model

Updates?







The Echo Nest 2



Somerville, MA U
2 people

2 computers

Lots of ideas

1,000,000 docum

10,000 artists

100,000 songs

0 public facing sit

The Echo Nest 2

Somerville, MA U

30 people

200 computers

Lots of products

5,000,000,000 do

1,200,000 artists

20,000,000 song

0 public facing sit



now everything about music and listeners
“Give (and sell) great data to everyone.”
it automatically with no bias, on everything

audio features.

musical features, Jehan '05++

publicly available, ~10s / song on cloud

gram

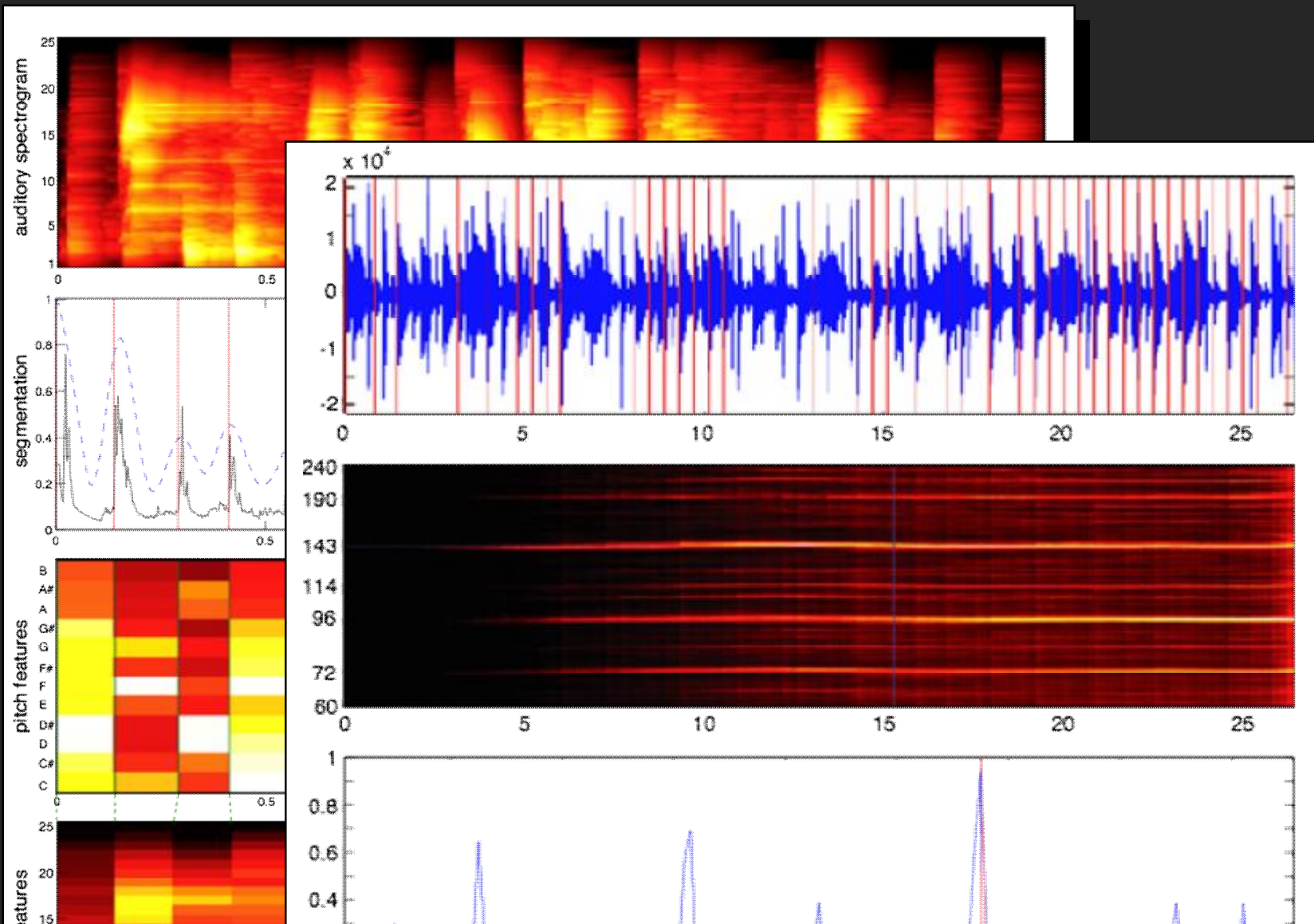
ments

atures

beat m

tempo

tempo s



ext features.

“community metadata” Whitman '02++
web crawls, blogs, reviews, news: “top t

n2 Term	Score	np Term	Score	adj Term	Score
dancing queen	0.0707	dancing queen	0.0875	perky	0.8157
mamma mia	0.0622	mamma mia	0.0553	nonviolent	0.7178
disco era	0.0346	benzy	0.0399	swedish	0.2991
winner takes	0.0207	chess	0.0390	international	0.2010
chance on	0.0297	its chorus	0.0389	inner	0.1776
swedish pop	0.0296	vous	0.0382	consistent	0.1508
my my	0.0290	the invitations	0.0377	better	0.0871
s enduring	0.0287	voulez	0.0377	classified	0.0735
and gimme	0.0280	something's	0.0374	junior	0.0664
enduring appeal	0.0280	priscilla	0.0369	produced	0.0616

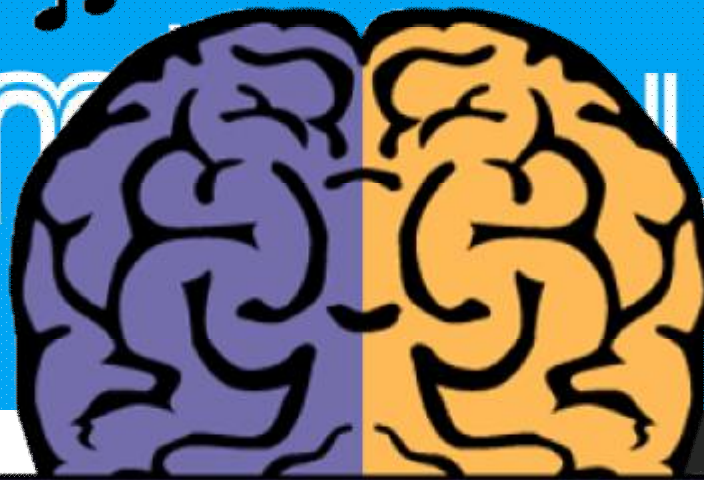
Metadata features.

Explicit categories, tags, similars from pa

Physical sales data

Other ontologies

thum



j.me

MusicBrainz

NY & E
MUSIC ENTERTAINMENT

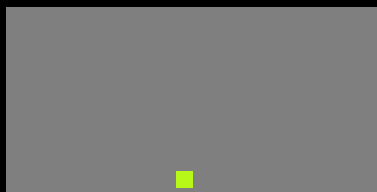


ser features.

- Activity streams
- Listener data

	likes “The Beatles”	smokes	gender	average song tempo	in friend cluster 393	written about “The Road”	
9	0.8	N	M	139.4			
3					1.0	0.5	
E	0.4	Y	F				

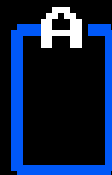
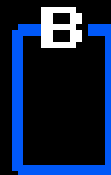
	All Music Guide	Pandora	The Echo Nest
known artists	280,000	80,000	1,200,000
years to get there	18	8	2
time to understand one album	1 week	1 day	<1 minute
cost to understand one album	\$400	\$40	\$0.001



XO

XO

XO

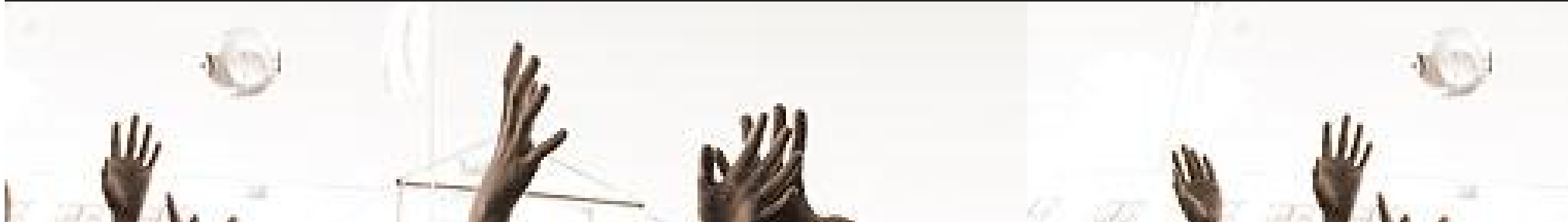
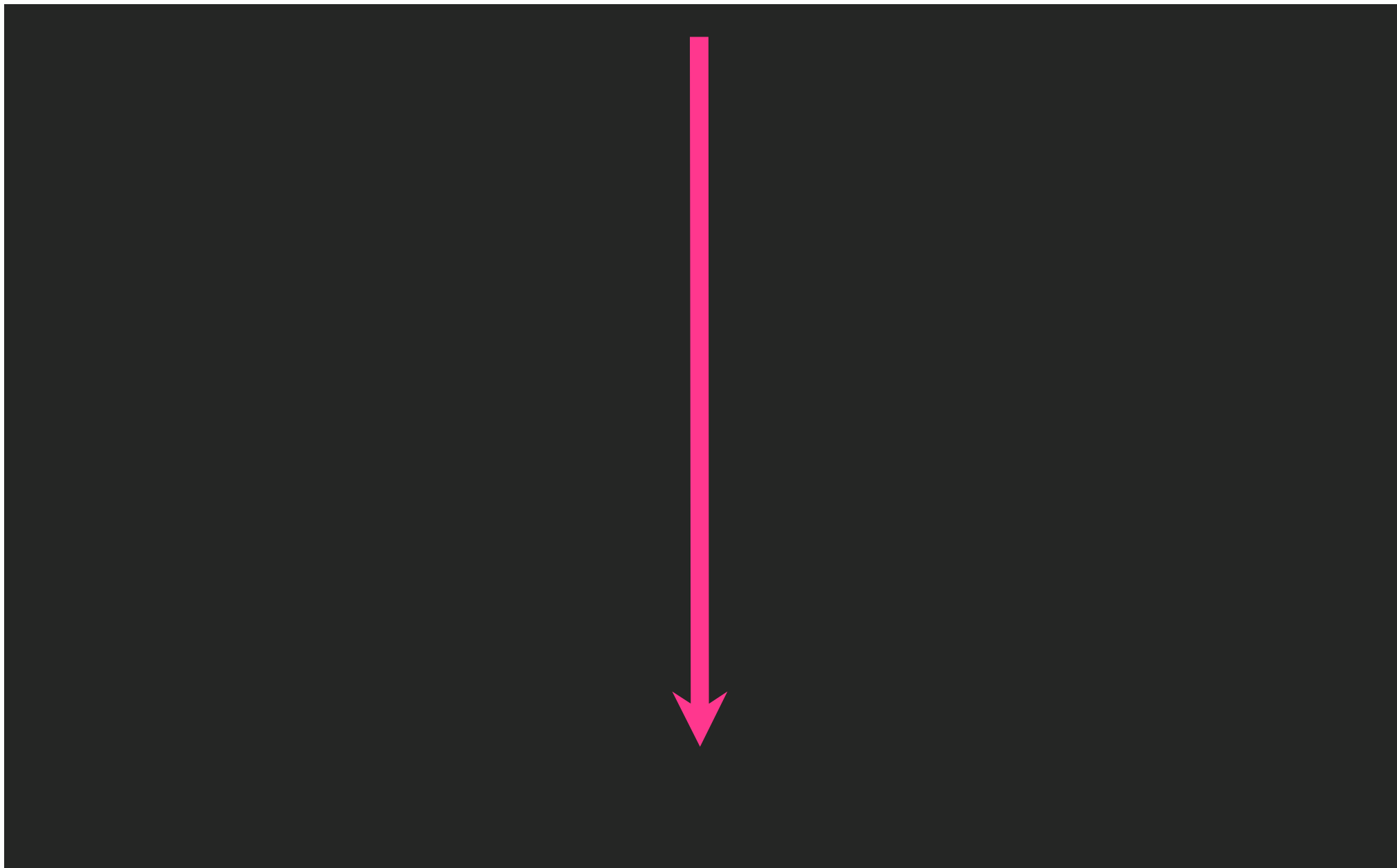


-LIFE-



IT'S DANGEROUS TO GO
ALONE! TAKE THIS.







SONY & BMG
MUSIC ENTERTAINMENT



TOWER
RECORDS





inecore™

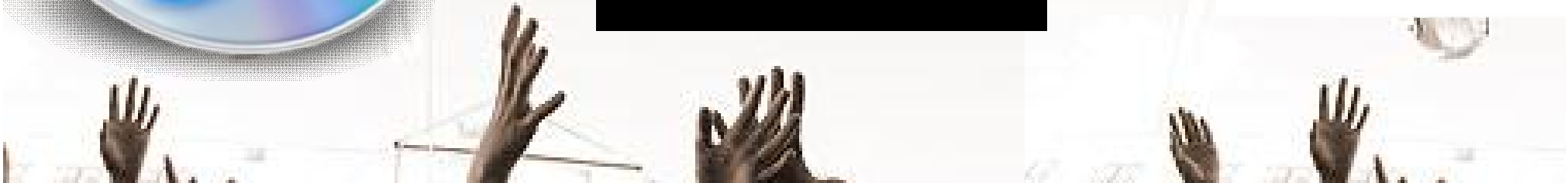


SONY & BMG
MUSIC ENTERTAINMENT



myspace
.com

YouTub



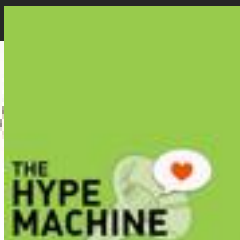


inecore™

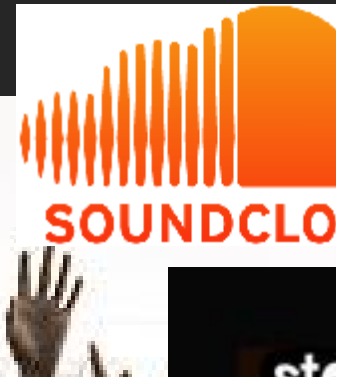
SONY BMG
MUSIC ENTERTAINMENT



k



You Tube



Artist metrics

analysis

Metadata

Content /
Streaming

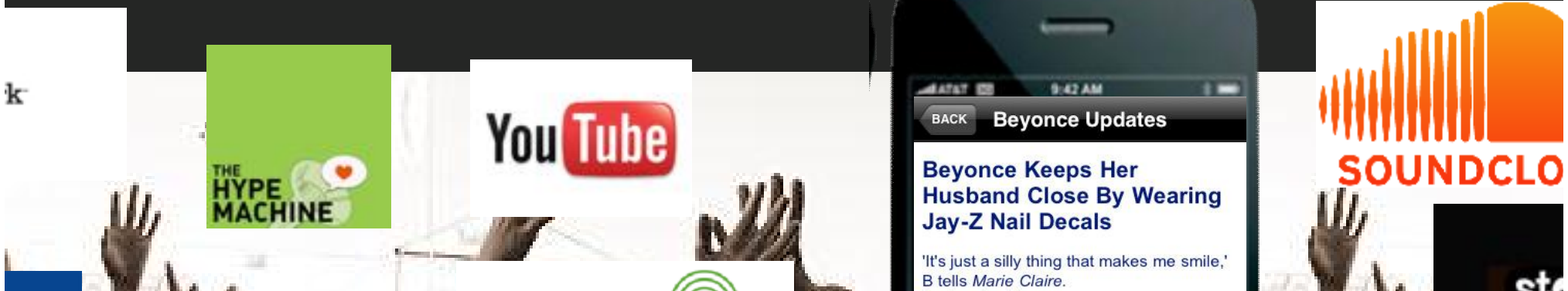
Fe

Predictive
analytics

Recommendation

larity

h / Tags



Contents

API Overview

Rules

Codes

3

1

Methods

15

1

Methods

Methods

Playlist API Methods

Api calls for generating playlists

static

Returns a static playlist. A static playlist is generated once from an initial set of parameters, and returns as an ordered list of songs.

Some properties of a static playlist:

- Songs are never repeated
- Artists may be repeated

A number of different algorithms can be used to select songs for the playlist. These are specified by the **type** parameter.

Parameter	Required?	Multiple?	Values	Description
api_key	yes	no	N6E4NIOVYMTHNDM8J	your API key
format	no	no	json, xml, xspf	the format of the returned playlist
type	no	no	artist, artist-radio, artist-description	the type of the playlist to be generated. See below for details on

The Swing Thing

"Don't mean a thing if it ain't got that swing"

Uses time-scaling techniques to add a swing beat to your songs!



Search

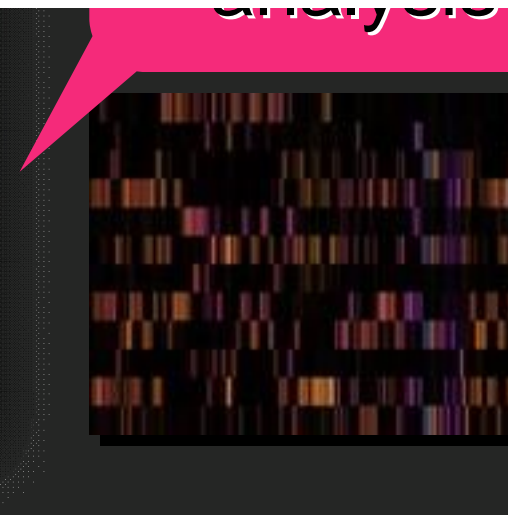
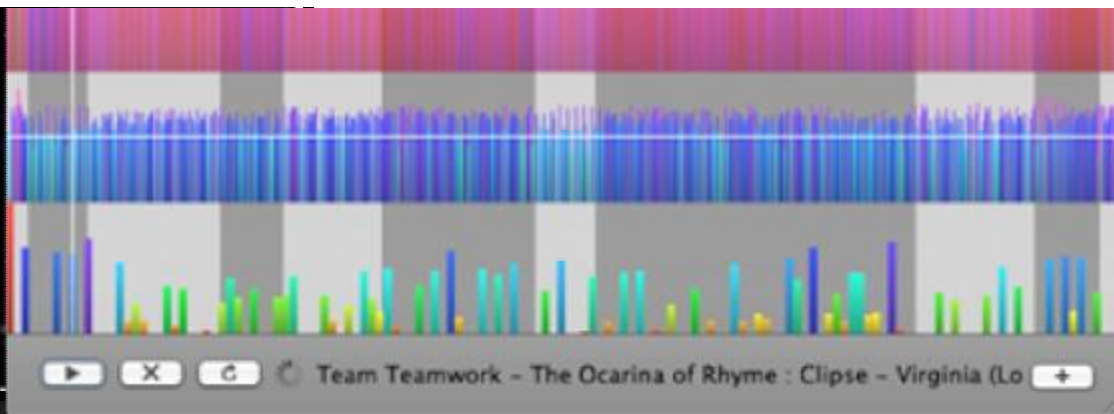
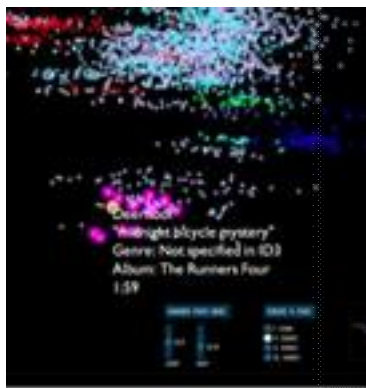
Choose File

No file chosen

Swing!

Top Voted

Aha - Take On Me	96 votes
The Blipp-Bloppers - Unloved.mp3	86 votes
MC Hammer - U Can't Touch This	52 votes
Rick Astley - Never Gonna Give You Up	46 votes
Green Day - American Idiot	45 votes



Summary v0.1


Life's too short to actually listen to all of it.

Wimpster BMA Nominee Chart

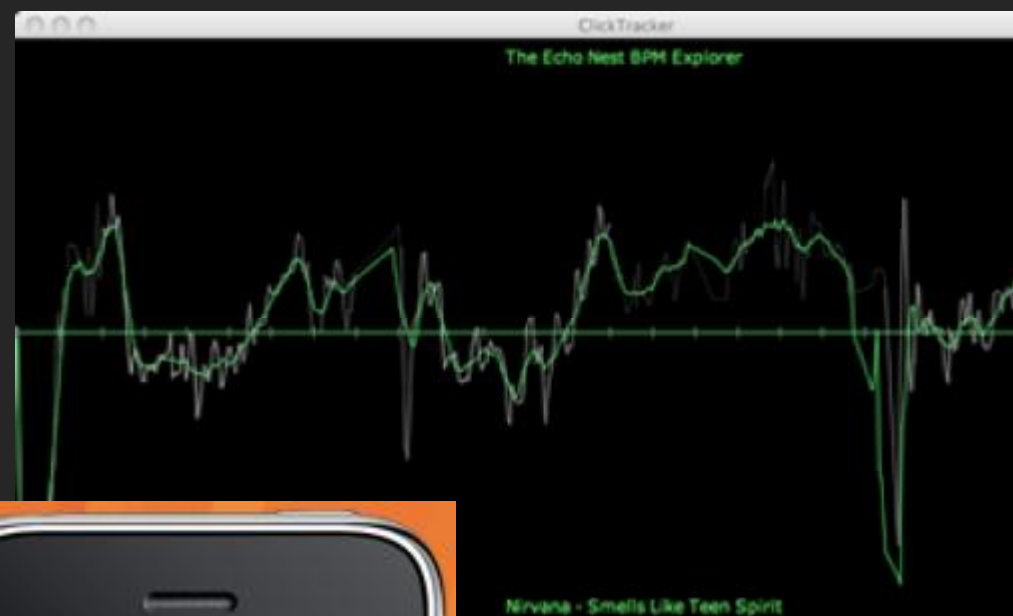
Published: 2010-05-10

Genres: Deep House, House, Tech House

Price: \$21.40

 Play Summary

Genres



Similarity

Acoustic
analysis

(of Steely Dan)

Donald Fagen (Founder Members Of Steely Dan)

Katy Lied
Steely Dan

Pretzel Logic
Steely Dan

TIME	ARTIST	ALBUM
05:07	Steely Dan	Gaucho
	Dan	Citizen 1972-
	Dan	Citizen 1972-
	Dan	Citizen 1972-
	Dan	Citizen 1972-
05:05	Steely Dan	Citizen 1972-
05:18	Steely Dan	Citizen 1972-
03:41	Steely Dan	Katy Lied
05:18	Steely Dan	Countdown To

Favorite Artist
Add to Quicklist

Add to Playlist

AutoPlaylist

MOG

Search for Artist, Album, o

Track4 (Twowaysuperimpo



ARTIST

Edit P

Playlist seed:

The Black Keys

Artist

Desc

Key / Mode:

C C# D Eb E F

Major

M

Tempo:

60 80 100 120



Play

Pl

2 things to remember:

2 things to remember:

Be cautious what you believe a computer can do

2 things to remember:

(1) be cautious what you believe a computer can do

(2) but data is one future of music



the echonest