

Musical Similarity

Timbral similarity

Recommendation services

Recent research

- “Mood” and timbre
- “Genre” and timbre
- Listeners and timbre

What is mood?

What is genre?

Do all listeners here the same music?



Listener choice:

Affective (acoustic) similarity

- Fr. Pachet, J.-J. Aucouturier (Sony Labs, Paris)
CUIDADO: tool for generating playlists (2002--)
- Selected passages from a wide variety of genres incl. classical, jazz, popular

CUIDADO: Selected results

PIANO REPERTORY

Piano music:

- "Classical" and "Contemporary": *Rachmaninov - Lugansky - Moment Musical opus 16 no 2, Gyorgy Ligeti - Concerto for Piano and Orchestra.*
- "Classical" and "Jazz": *Schumann - Horowitz - Kreisleriana, Op 16-5 (sehr langsam) and Bill Evans - I loves you Porgy*

Orchestral textures:

ORCHESTRAL REPERTORY

- "Jazz" and "Classical": *Orchestre Symphonique de Montreux - Porgy and Bess and Prokofiev - Celibidache - Symphonie no 5-1 opus 100.*
- "Classical" and "Pop": *Beethoven - Romanze fur Violine und Orchester Nr. 2 F-dur op.50 and Beatles - Eleanor Rigby*
- "Classical" and "Musicals": *Beethoven - Romanze fur Violine und Orchester Nr. 2 F-dur op.50 and Gene Kelly – Singin' in the rain*

CUIDADO: Components

- *Editorial tool*: artist, genre, language, voice types, instrument IDs
- *Quasi-linguistic associations* between artists (12,000+) and groups
- *Acoustical features* incl. variance of amplitude, spectral frequencies
- *Aim*: describe music titles by “global timbral quality” modeled on MFCCs (mel cepstrum co-efficients)
- Segregate solos from groups
- >Pachet et al (2006):
<https://link.springer.com/article/10.1007/s11042-006-0030-6>

General framework for extraction

- Stereotype avoidance (e.g. artist and interests)
- Want precision in extracted samples
- **Features sought:**
 - Perceptual energy
 - Separation of studio vs live recordings
 - Harmonicity
 - Percussivity

CUIDADO browser

Method:

- System finds co-occurrences and compiles lists
- User picks an example, software finds “songs that sound the same”
- Cultural similarity (passages in similar contexts)
- Web crawler looks for additional matches
- Recent frontier: *comparing diverse kinds of similarity*

See Hughes Vinet:

https://www.academia.edu/71611893/The_CUIDADO_Project_The_CUIDADO_Project

Other audio-based research

(*human conditioning*)

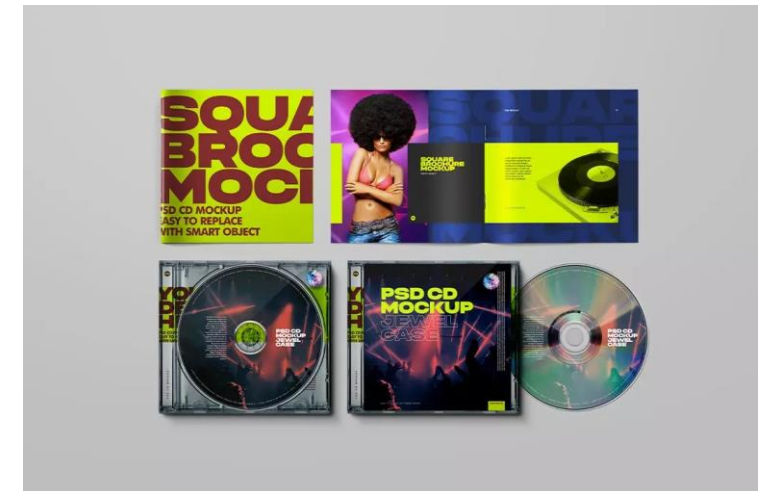


1. Perritt and Gjerdingen (1999--)

- Genre identification via radio** by 17-year-olds
- 10 genres, popular music
- Aim: establish *shortest interval to identify* preferred genre

2. Daniel Levitin (c 1996)

- Listeners and **pitch** entrainment
- Listeners and **tempo** entrainment



Yesterday's news: Chechnya bans all tempos <80/>116>

https://www.youtube.com/watch?v=y-qA_EG9QVA



**Chechnya Forbids Music Outside
80-116 BPM Tempo**

April 5, 2024

