



Playlist Generator

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Our prototype:

**6 distinctive
playlist
categories**

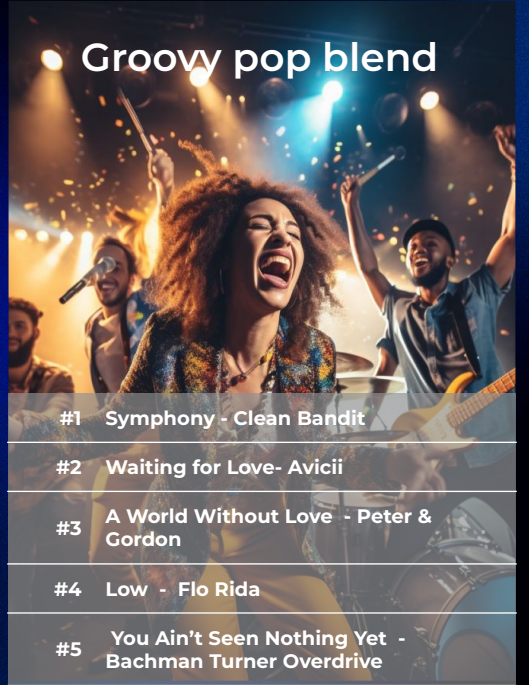
Feelgood Frequencies

- #1 I Need Your Love - Calvin Harris
- #2 Rebel Rebel - David Bowie
- #3 Everlasting Love - Love Affair
- #4 The Potter's House - Gerard & Jovaun
- #5 There Must Be An Angel - Eurythmics



Groovy pop blend

- #1 Symphony - Clean Bandit
- #2 Waiting for Love- Avicii
- #3 A World Without Love - Peter & Gordon
- #4 Low - Flo Rida
- #5 You Ain't Seen Nothing Yet - Bachman Turner Overdrive



Study Focus

- | | |
|----|--|
| #1 | 2 Melodies, Op.3 II Andante - Anton Rubinstein |
| #2 | Symphony Nr. 7 - Ludwig van Beethoven |
| #3 | Search For Peace - McCoy Tyner |
| #4 | Young And Foolish - Bill Evans |
| #5 | Violao Vadio - Raphael Rabello |



BARS & BEATS

#1	We Fly High - Jim Jones
#2	Gravel Pit - Wu Tang Clan
#3	Hustlin' - Rick Ross
#4	Woah - Lil Baby
#5	American Boy - Estelle



- #1 Decomposed - Gorefest
- #2 Certified...? - Benediction
- #3 Troops Of Doom - Sepultura
- #4 Deicide - Deicide
- #5 Embalmed Alive - Mortician

THUNDEROUS RIFFS



Death metal essentials



- #1 Chopped in Half - Obituary
- #2 Signal - Fresh
- #3 Inhuman Condition - Massacre
- #4 The Secrecies Of Horror - Pestilence
- #5 Throne Of Fire - Altar

What we did

- Cleaned data
- Removed general meta-data
- Ignored *key*
- Ignored *time signature*
- Ignored *liveness*
- PCA reduction
- K-means clustering
- Characterization of cluster metrics

As preparation:

- We cleaned the data, removed 64 duplicates and one row with empty characteristics
- We removed general meta-data like duration and loudness which are technical and not important for music
- Ignored the music key which is useful for ordering songs within playlists but not for clustering
- Ignored time signature not deemed important for mood, 85% are 4/4
- Ignored liveness: under 1% real live songs above score 0.8, meaning of values below unclear, did not prove useful as cluster distinction

As analysis:

- 95%-PCA reduction from 9 to 6 dimensions
- K-means clustering with optimal 6 centers
- Characterized the metrics of the 6 clusters

For which we got a little help from Lucas on the next slide, please!

Moosical Spiders



Spider diagrams give a good overview of the characteristics of the identified clusters:
Mean and variation of 8 values each



Left column: Pop/rock (similar characteristics, apart from:)

- Top: Mode in major key
- Bottom: Mode in minor key

Middle column:

- Top: instrumental music (e.g. jazz and classical)
- Bottom: Rap (obviously)

Right column: Metal (again similar characteristics apart from:)

- Top: Mode in major key
- Bottom: Mode in minor key

Handing over to Hanne for the outlook.

Next steps: Refinement

The playlist clusters are distinctive, but:

1. Selections from each cluster needed to form playlists of 50-100 songs
2. There are still songs combined in a list that, by a human selection, based on genre, artist or experience would not belong there

Refinement strategies to test:

1. Exclude songs from artists that are over-represented
2. A second run of K Means with each cluster to create subgroups

Thanks!

Do you have any
questions?

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