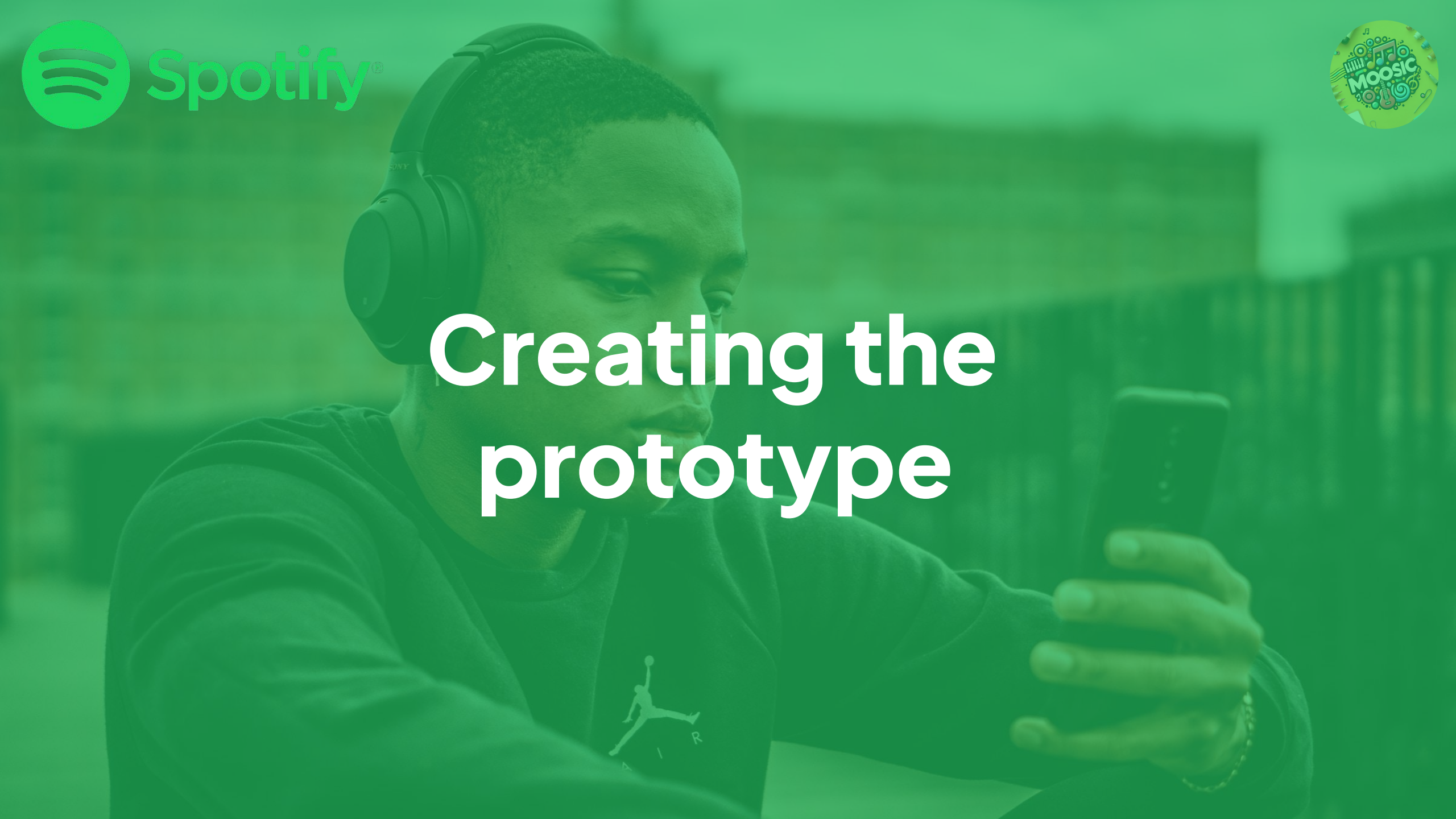


Creating the prototype

Explore and clean
the data

Step 1

Explore and clean the data

Normalize: minmax normalization

Step 1

Step 2

Explore and clean the data

Normalize: minmax normalization

Explore the data using k mean values

k = number of playlists

Step 1

Step 2

Step 3

Explore and clean the data

Normalize: minmax normalization

Explore the data using k means

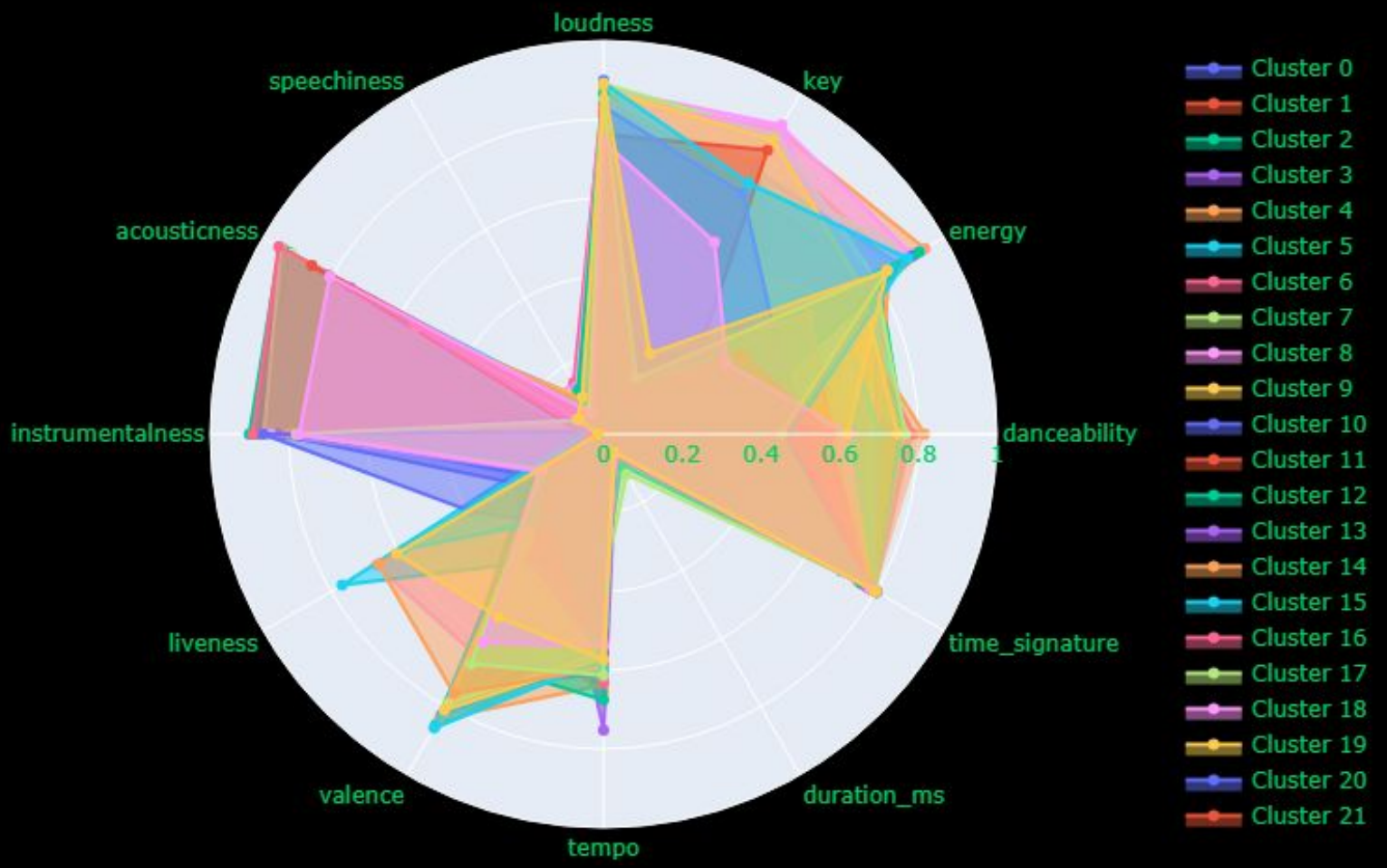
k = number of playlists

Create more plots with those k values

Step 1 **Step 2** **Step 3** **Step 4**

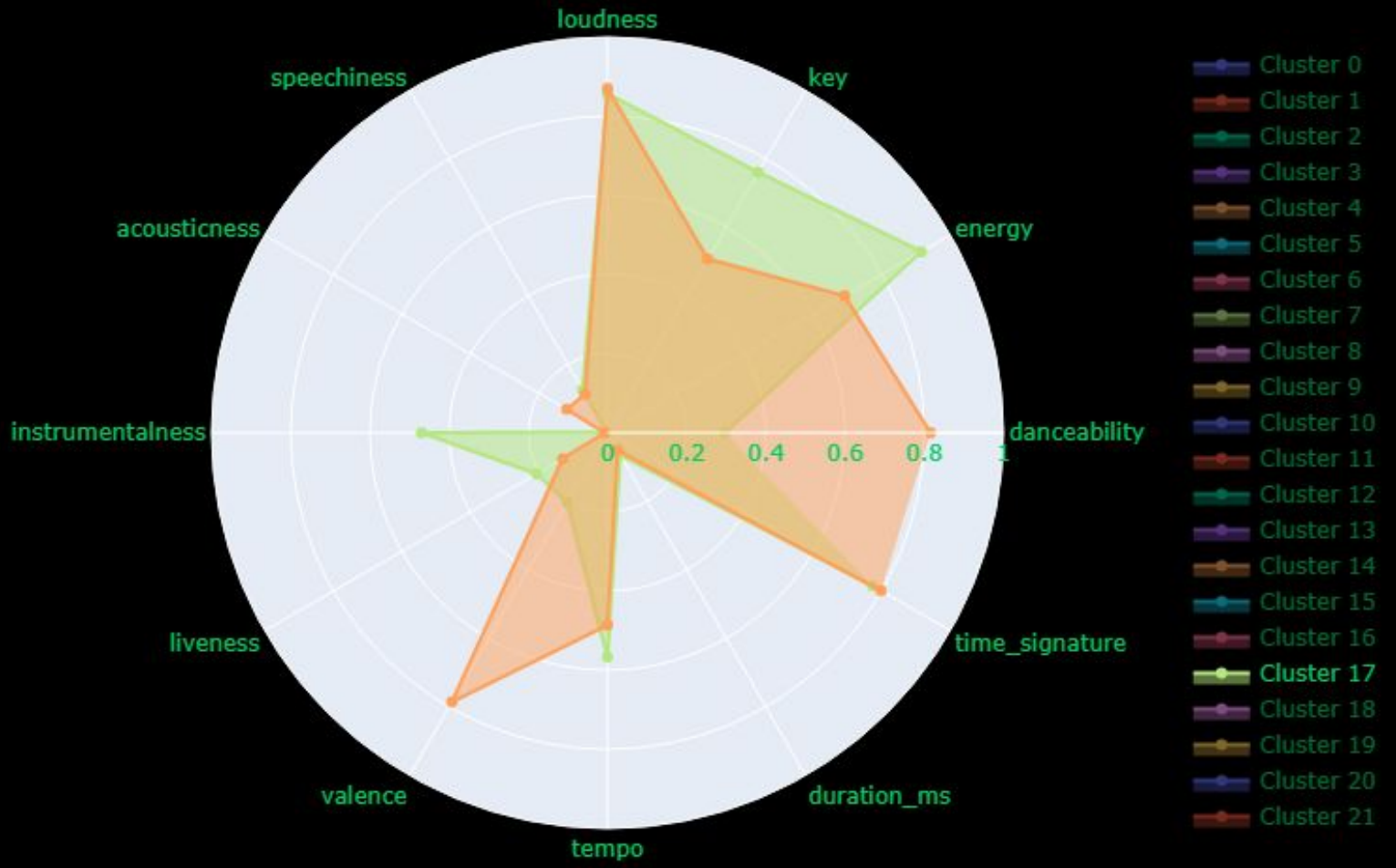
Radar chart

Mean preferences by chart



Radar chart

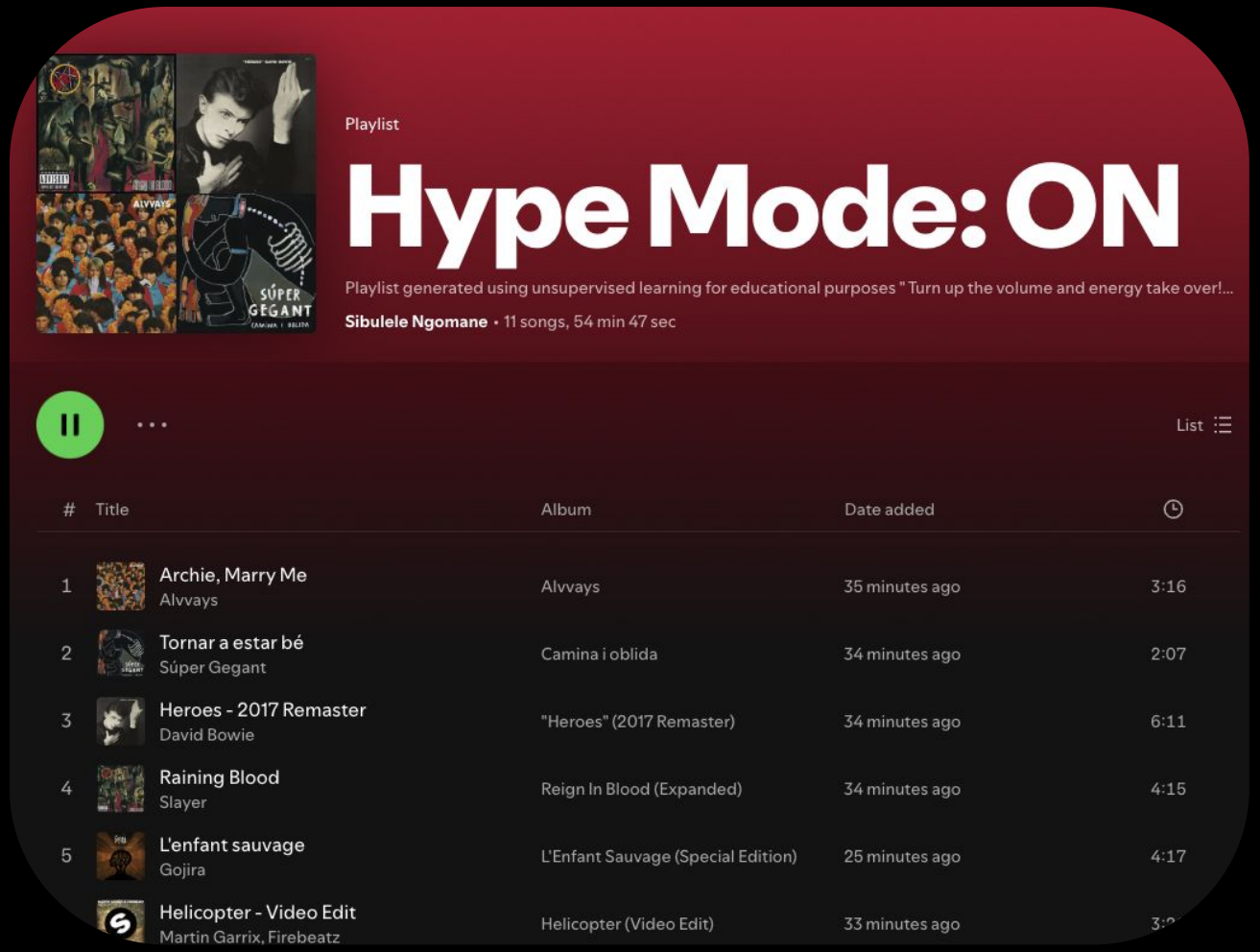
Mean preferences by chart



+ 2 Distinct playlists:

- Hype Mode:On
- Road Trip to Berlin

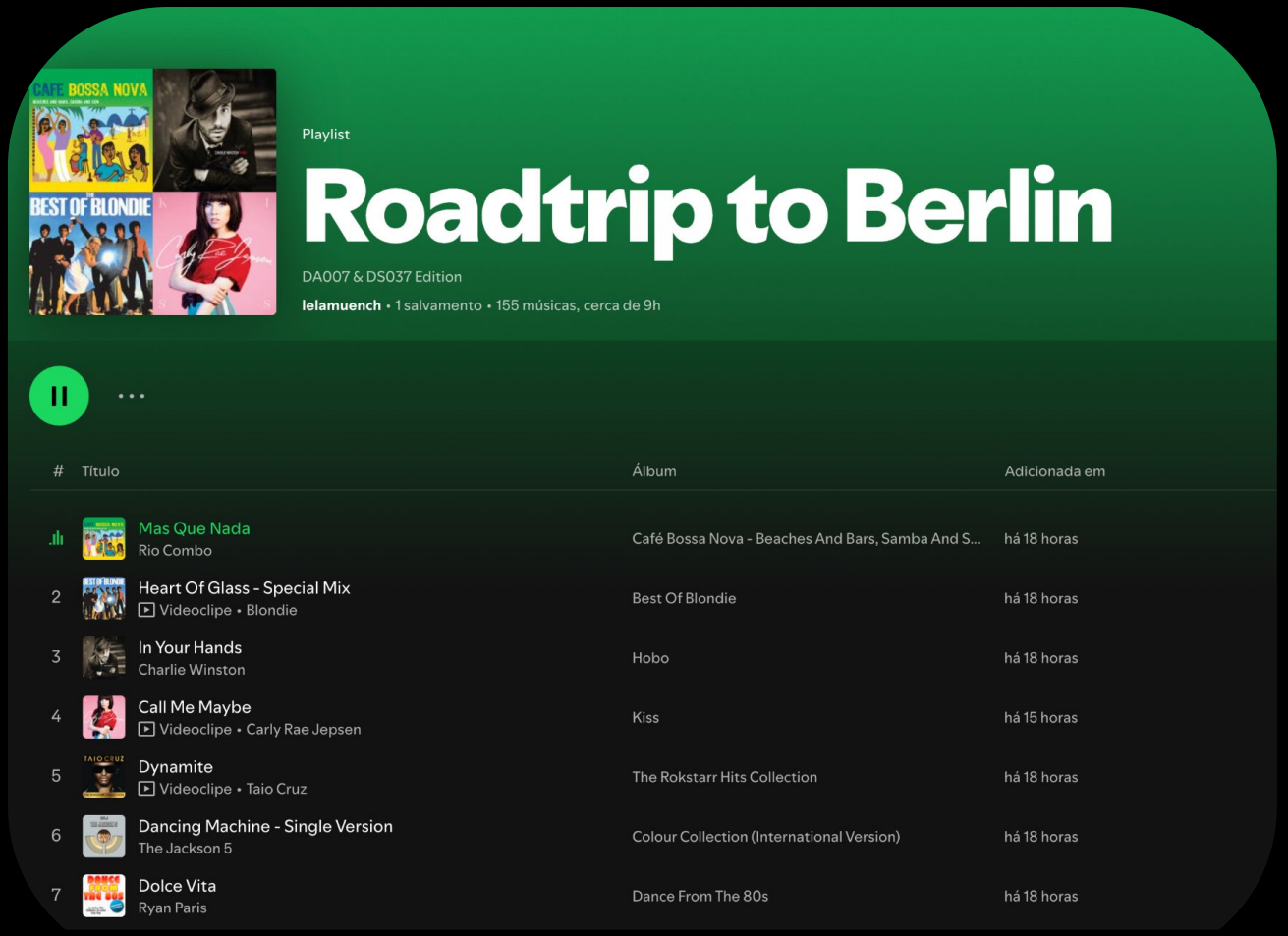
Hype Mode: On



Turn up the volume and let energy take over! Hype Mode: ON is your ultimate adrenaline-fueled playlist. These 104 tracks are designed to push you to the limit—whether you're hitting the gym or a night out! Crank it up!

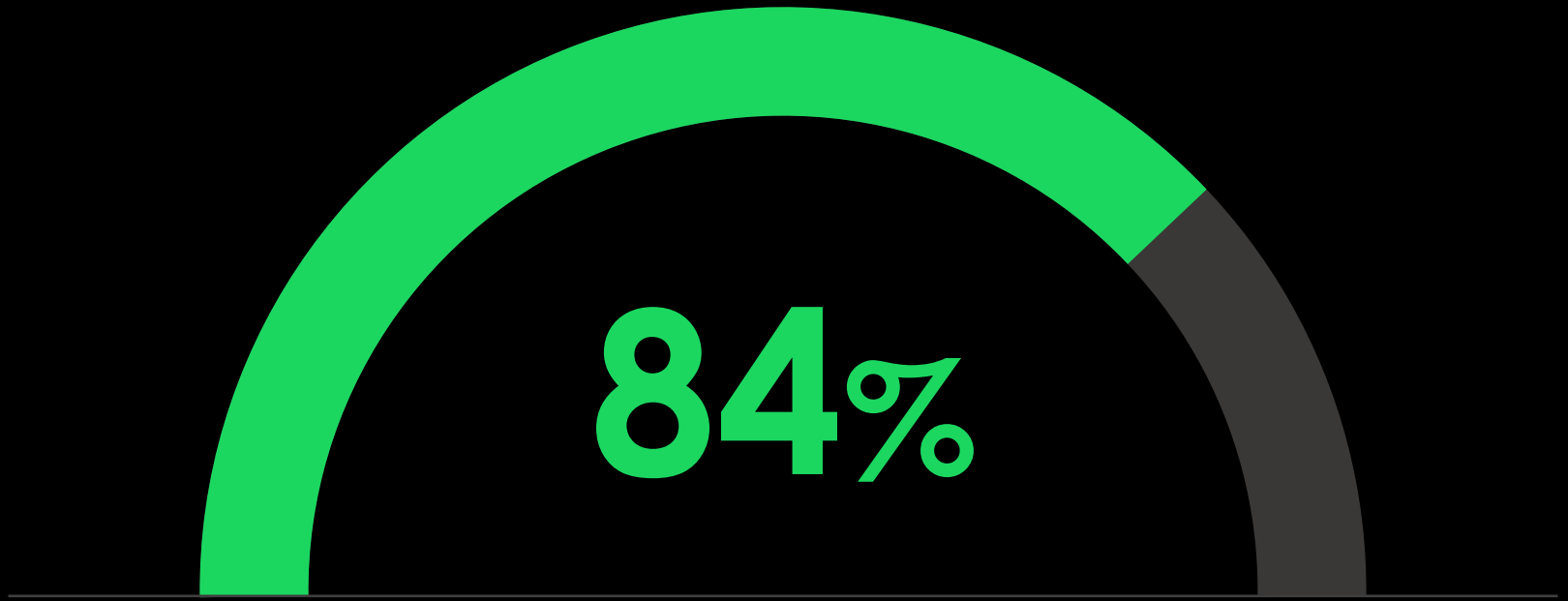
Roadtrip to Berlin

DA007 & DS037 Edition



Buckle up and hit the road with the ultimate Roadtrip to Berlin DA007 & DS037 playlist—crafted for the legends of WBS School of Coding! Whether you're cruising down the autobahn, stuck in Berlin traffic, or waiting for yet another delayed Deutsche Bahn train, these tracks will fuel your journey with energy, nostalgia, and pure coding greatness!

accuracy of song identification



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Playlists

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PROS

- Quick , simple and scalable way to create playlists

- It is accessible, you don’t need to be a musical expert to use the model to create a playlist

- It manages to create distinct playlists that do not completely overlap

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Artist
Album
Playlists
Podcasts

Help
Stats

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CONS

- Does not account for qualitative features of types of songs such as “genre” which some customers might also associate with mood

- The number of songs per playlist varies which could lead to product marketing and pricing issues for customers

- It can’t completely replace manual work, you still have to check to make sure the playlist makes sense

- It’s not clear whether these features alone are directly linked to “mood” because “mood is subjective”

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Album
Playlists
Podcasts

Help
Stats

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KEY SUCCESS CRITERIA FOR EVALUATING K-MEANS MODELS

Interpretability

- Yes, the playlists are distinct! But some playlists have songs to do not fit well together

Business Relevance

- Depends on how bespoke the playlists should be but the prototypes are not ready shipped to market without human editing

Discovery of new patterns

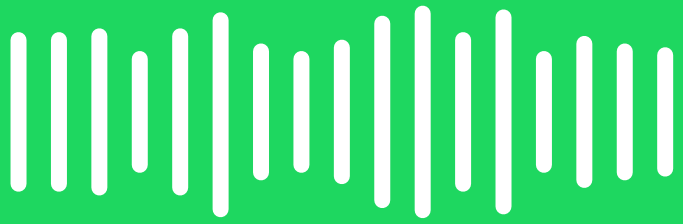
- Yes, some otherwise different genres can be clustered together based on features alone

Recommendations

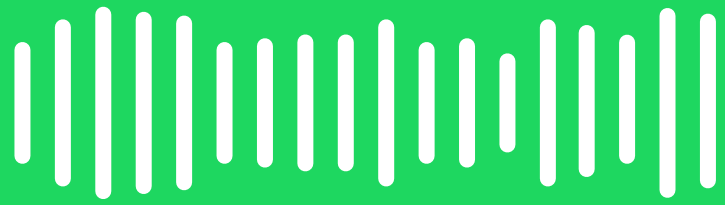
Balance Pros and Cons:

- Moosic could use K-means clustering as the first step to automatically generate distinct playlists based on audio features like tempo, energy, acoustics

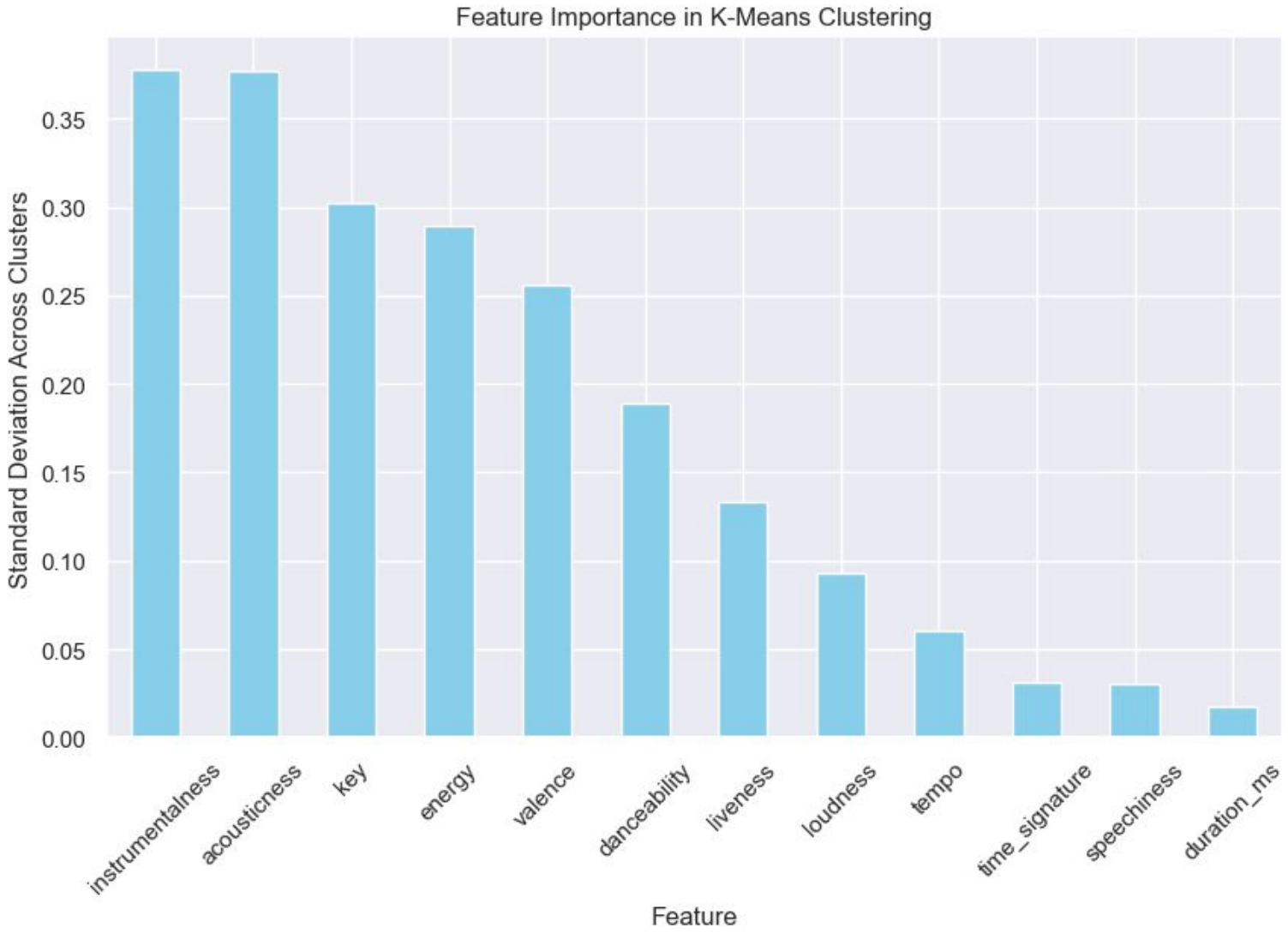
- To enhance quality, engagement, and market relevance, human recognition should involve music and marketing experts to refine and curate the final selections



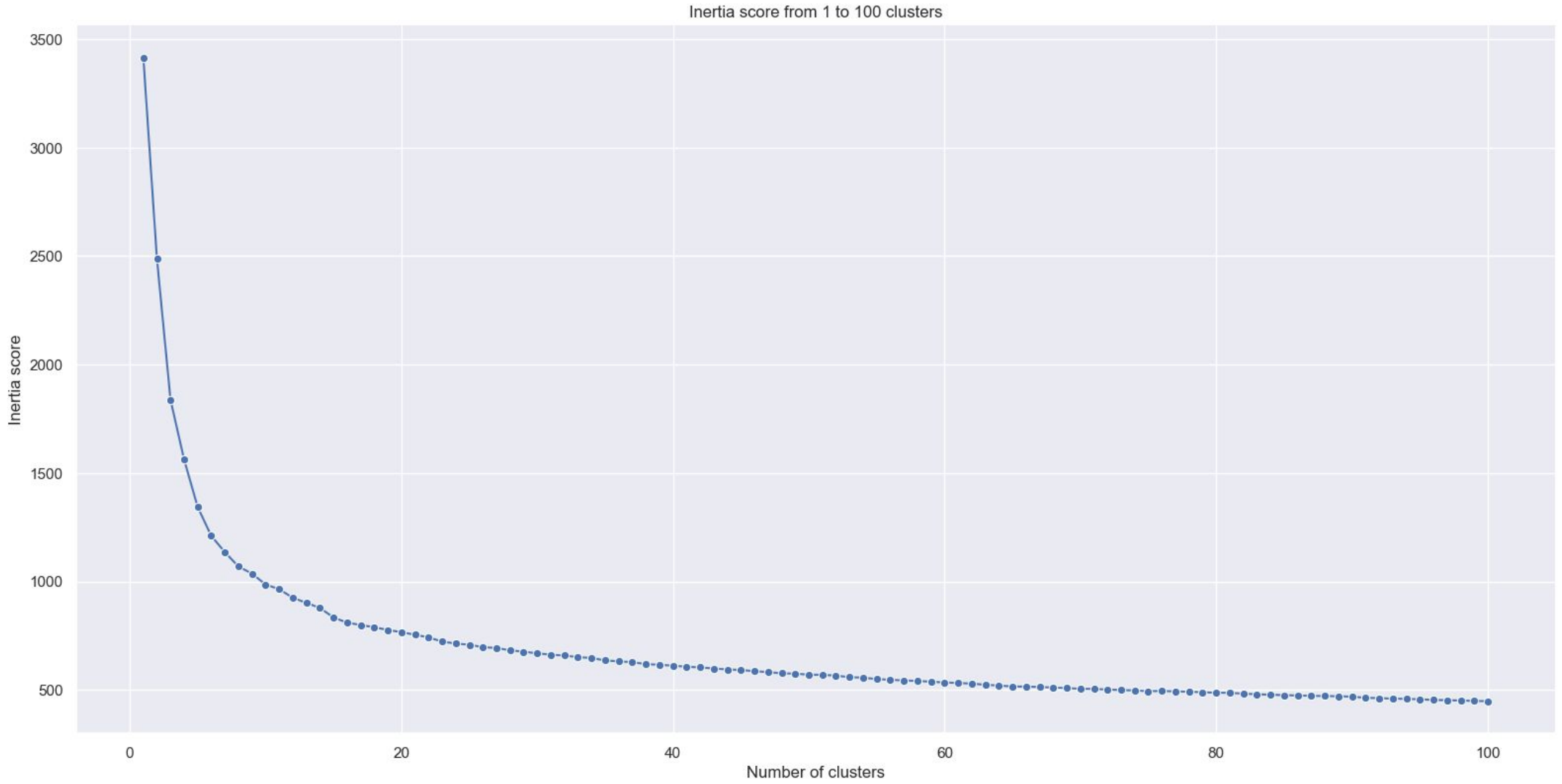
Thank you for your time!



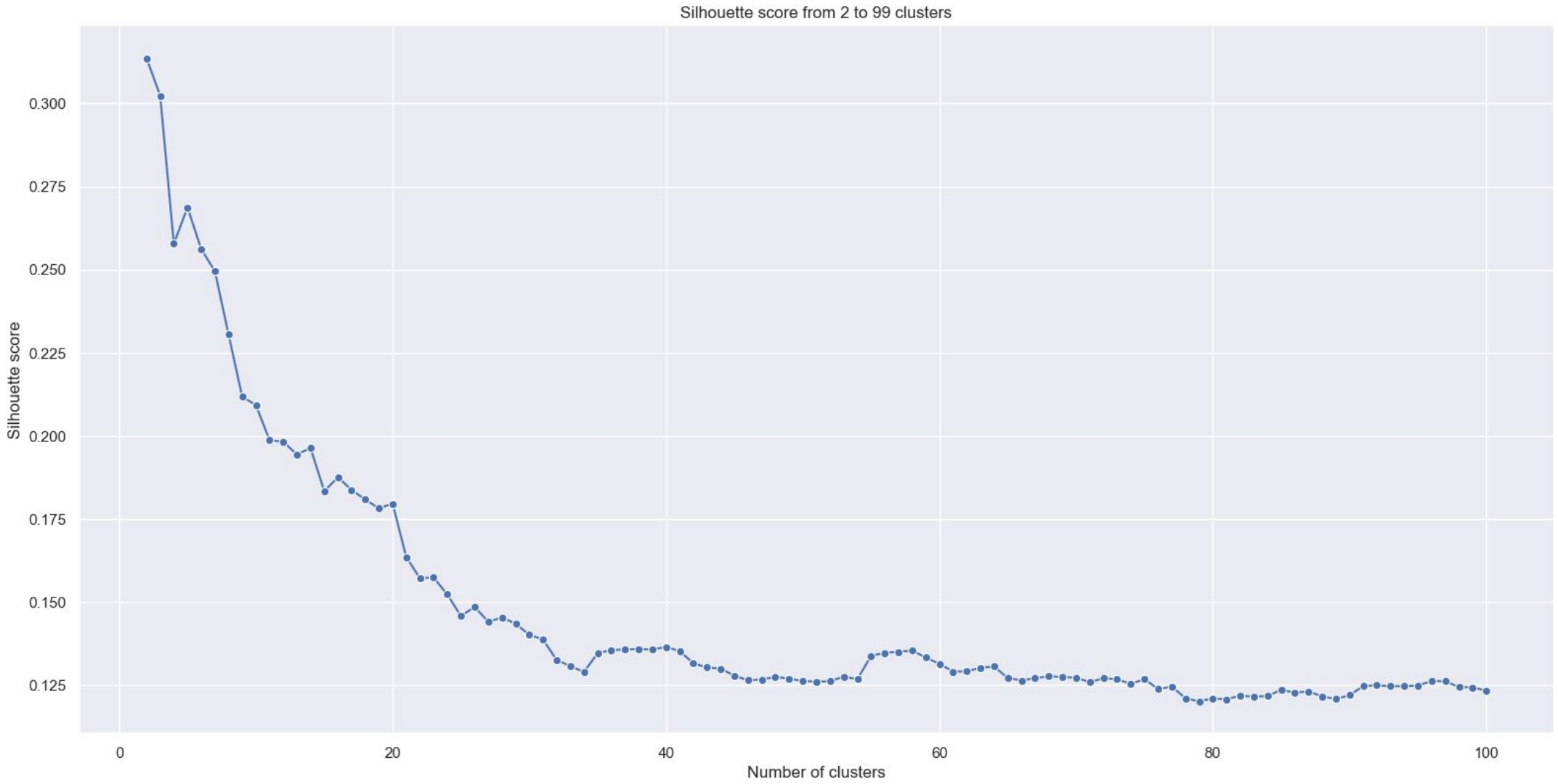
Appendix


Feature Importance in K-Means Clustering
Standard Deviation Across Clusters
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
instrumentalness
acousticness
key
energy
valence
danceability
liveness
loudness
tempo
time_signature
speechiness
duration_ms
Feature

Appendix

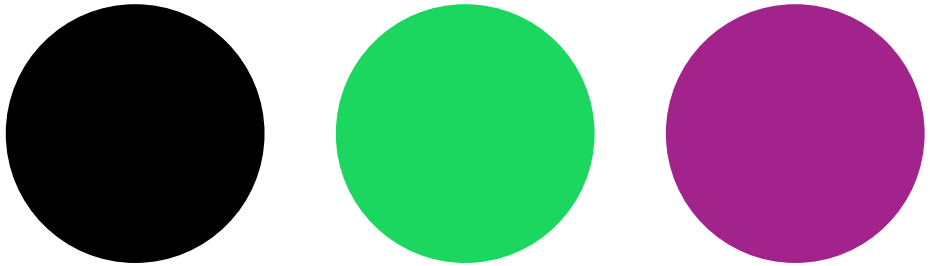

Inertia score from 1 to 100 clusters
Inertia score
3500
3000
2500
2000
1500
1000
500
0
20
40
60
80
100
Number of clusters

Appendix


Silhouette score from 2 to 99 clusters
Silhouette score
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0
20
40
60
80
100
Number of clusters

Spotify®

Spotify®



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Album

Playlists

Podcasts

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nice!

Interpretability

- Yes and No, the playlists are distinct but some songgs don't quite fit together

Business Relevance

- No, prototypes are not ready shipped to market without human editing

Discovery of new patterns

- Yes, some otherwise different genres can be clustered together based on features alone

Home

New Tracks

1	Lorem Ipsum	59,412,059	1:25
2	Lorem Ipsum	59,412,059	1:25

New Albums

Lorem Ipsum
2023 • Album

Lorem Ipsum
2023 • Album

Lorem Ipsum
2023 • Album

Lorem Ipsum
2023 • Album

Lorem Ipsum
2023 • Album

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Home

My Library +

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Album

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Podcasts

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Lorem Ipsum

59,412,059 monthly listeners

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1	Lorem Ipsum	59,412,059	1:25

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Home

My Library +

Artist
Album
Playlists
Podcasts

Help
Stats

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About Ads Accessibility
Cookies

Podcasts

Lorem Ipsum
Lorem Ipsum

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My Library +

Artist
Album
Playlists
Podcasts

Help
Stats

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Lorem Ipsum

Lorem Ipsum • 2023 • 30 songs, 1 h 50 min

#	Title		
1	Lorem Ipsum	59,412,059	1:25
2	Lorem Ipsum	59,412,059	1:25
3	Lorem Ipsum	59,412,059	1:25
4	Lorem Ipsum	59,412,059	1:25
5	Lorem Ipsum	59,412,059	1:25

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Artist
Album
Playlists
Podcasts

Help
Stats

Stats

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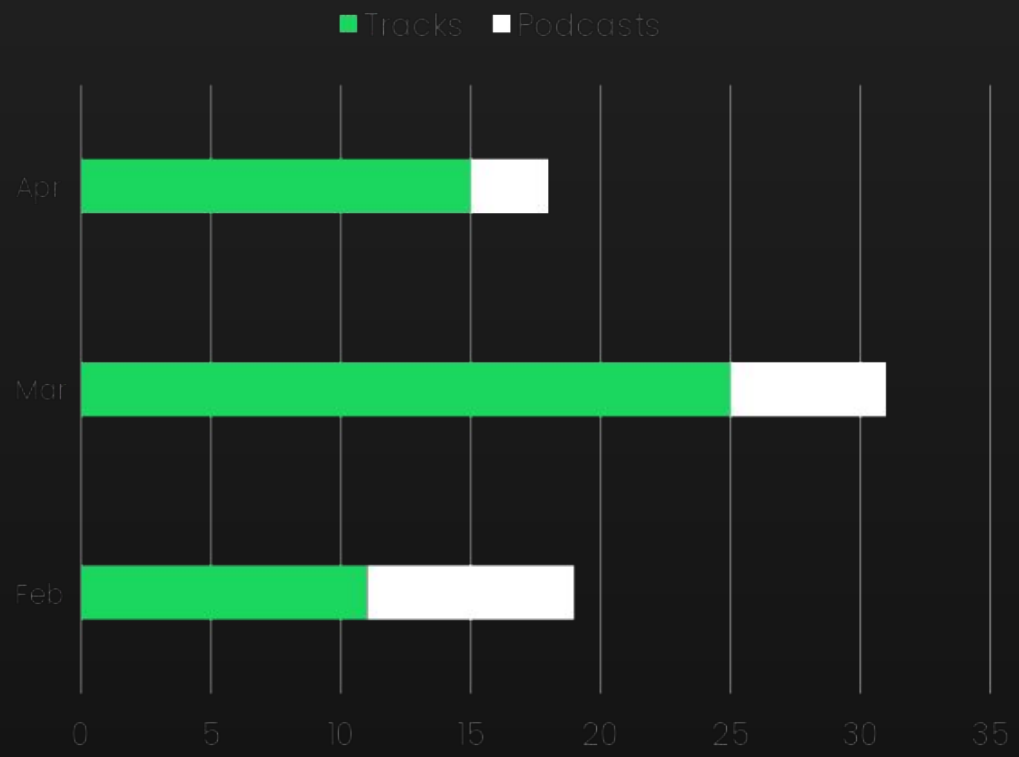

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Lorem Ipsum

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Lorem Ipsum

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My Library +

Artist
Album
Playlists
Podcasts

Help
Stats

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About Ads Accessibility
Cookies

Playlists

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