

Rock music analysed using Spotify Web API

MY472 Data for Data Scientists

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1. Introduction

Research question: "Rolling Stone Magazine ranked their 100 greatest musical artists of all time. At the end of 2023, how has their music endured? Are there any features or characteristics that seem to explain enduring engagement?"

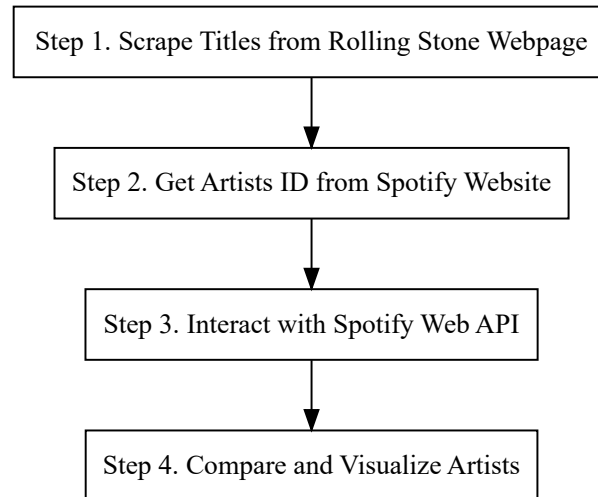
The Github Repository with the project: Link (https://github.com/RiyaChhikara/LSE-MSc-Projects/tree/main/MY472_Data_for_DataScientists/Final%20Project)

Rolling Stone's ranking honors both the legendary rock and roll icons of the Sixties and contemporary trailblazers like Eminem. To analyse their musical styles, I utilized Spotifyr library for interacting with Spotify API. The exploration in this notebook aims to understand how rock artistry endures in the modern era and to identify which musicians from the top 100 list are still influential today. By analyzing Spotify's data, I offer insights into the current musical landscape, which still has prominent features of the rock music.

2. Data

In this project, I have looked at the following sources:

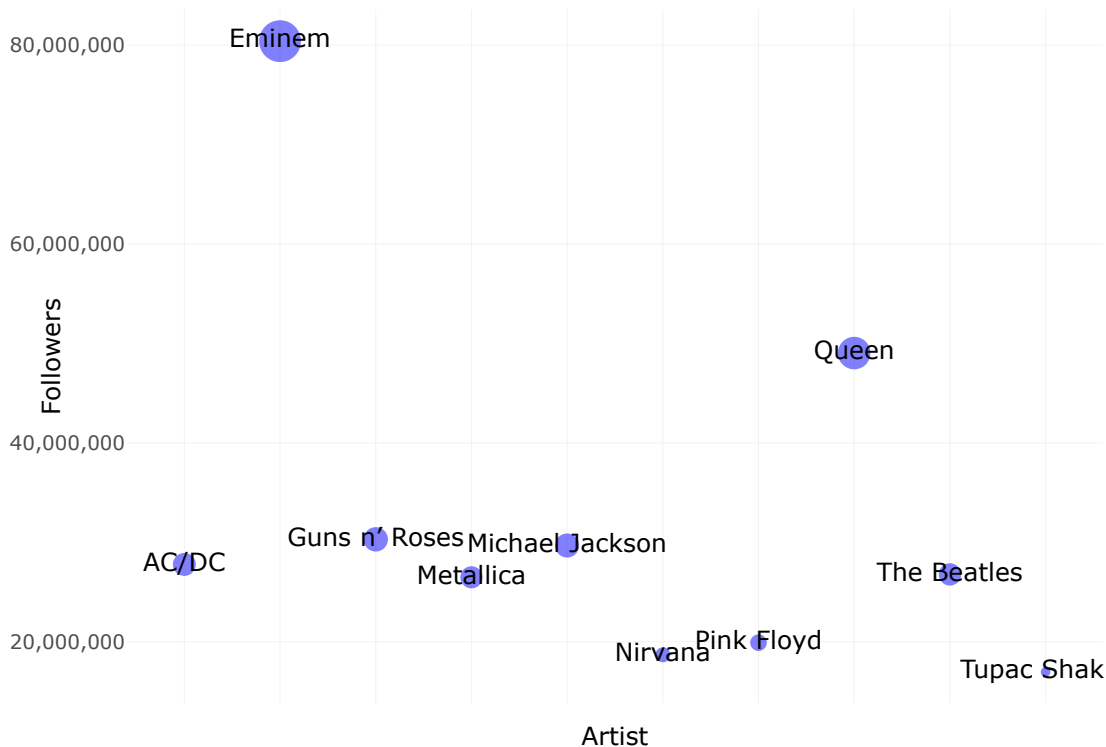
1. **Rolling Stones Website**
2. **Spotify API:** To analyse audio features for artist's popular tracks.
3. **Spotify Playlist** Link (<https://open.spotify.com/playlist/37i9dQZF1DX8YNmLOBjUmx?si=999fd88a4b054b33>)
4. **Billboard 2023 Charts** Link (<https://www.billboard.com/charts/year-end/2023/top-rock-artists/>)
5. **Google Trends**



3. Analysis

3.1 Rolling Stones Ranking Revisited with Spotify

Fig 1: Top Artists by Followers

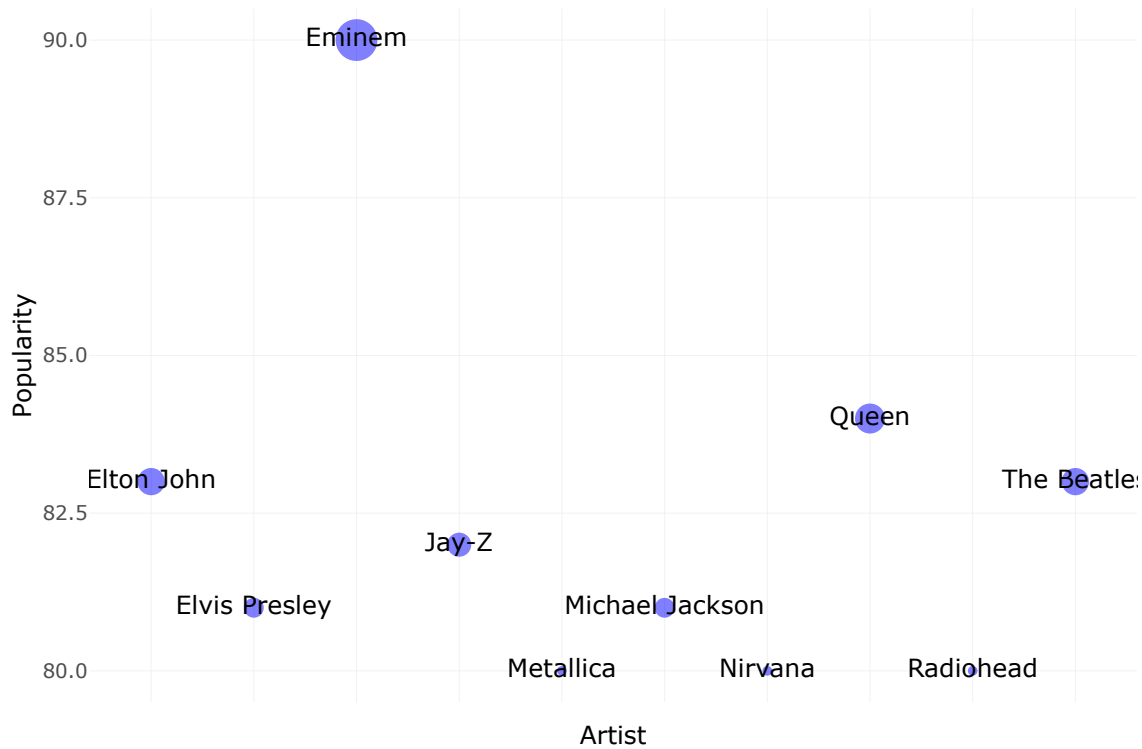


In Figure 1, we look at those 10 artists from the Rolling Stones list who had the highest number of follower count in Spotify ranking. Eminem is at the top with 80 million followers, and Queen is next with 49 million. Later in this notebook, we'll explore why Eminem's music is so popular.

There's also a second group of famous artists: Guns n' Roses, AC/DC, Michael Jackson, Metallica, and The Beatles. Pink Floyd, Nirvana, and Tupac Shakur are in another group, with an average of around 18 million followers.

It's interesting to note that Eminem was only 83rd on Rolling Stone's list, but he's got more Spotify followers than anyone else on the list. Only The Beatles, Michael Jackson, and Nirvana were in the top 50 of Rolling Stone's ranking, showing the differences over a periods of time from 2011 to 2023.

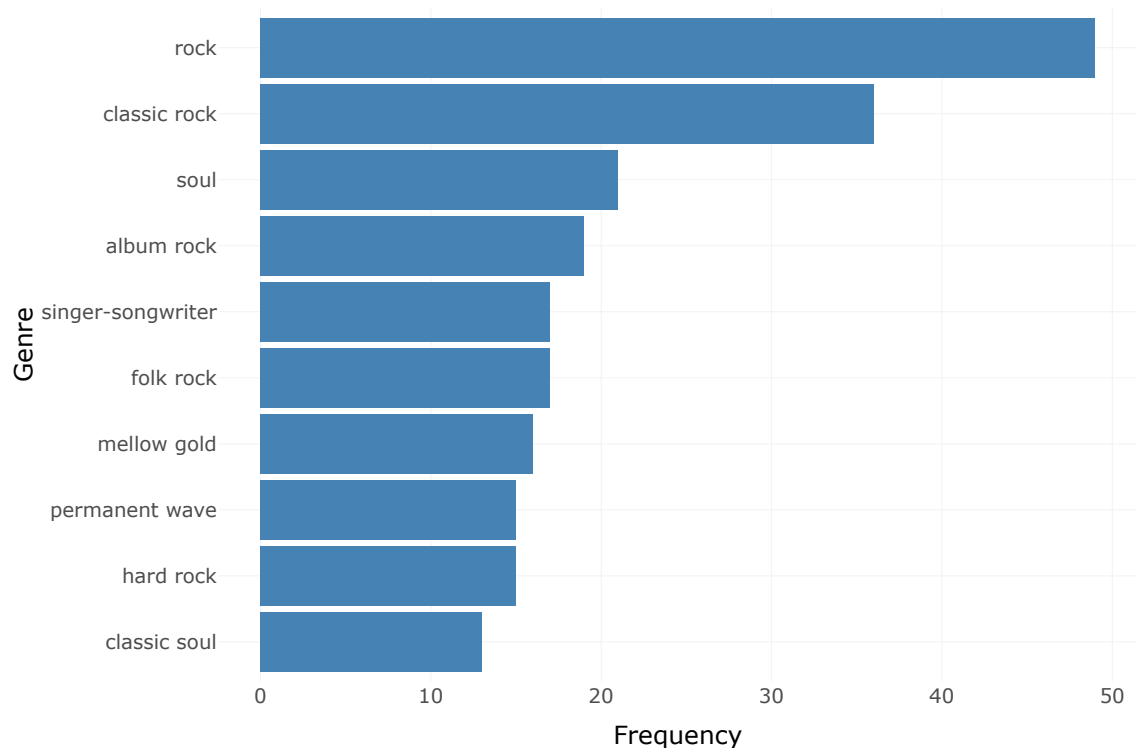
Fig 2:Top Artists by Popularity



In Figure 2, we look at those 10 artists from the Rolling Stones list who had the highest popularity on Spotify. Popularity is ranked by Spotify on a scale of 0 to 100. Yet again, Eminem rules the chart with a whopping popularity of 90. This is followed by Queen (similar to the followers ranking). At the next level, we have The Beatles and Elton John sharing the place with 83 as their score. There are some names which were not seen in Figure 1 like Jay-Z, Elvis Presley, Elton John and Radiohead.

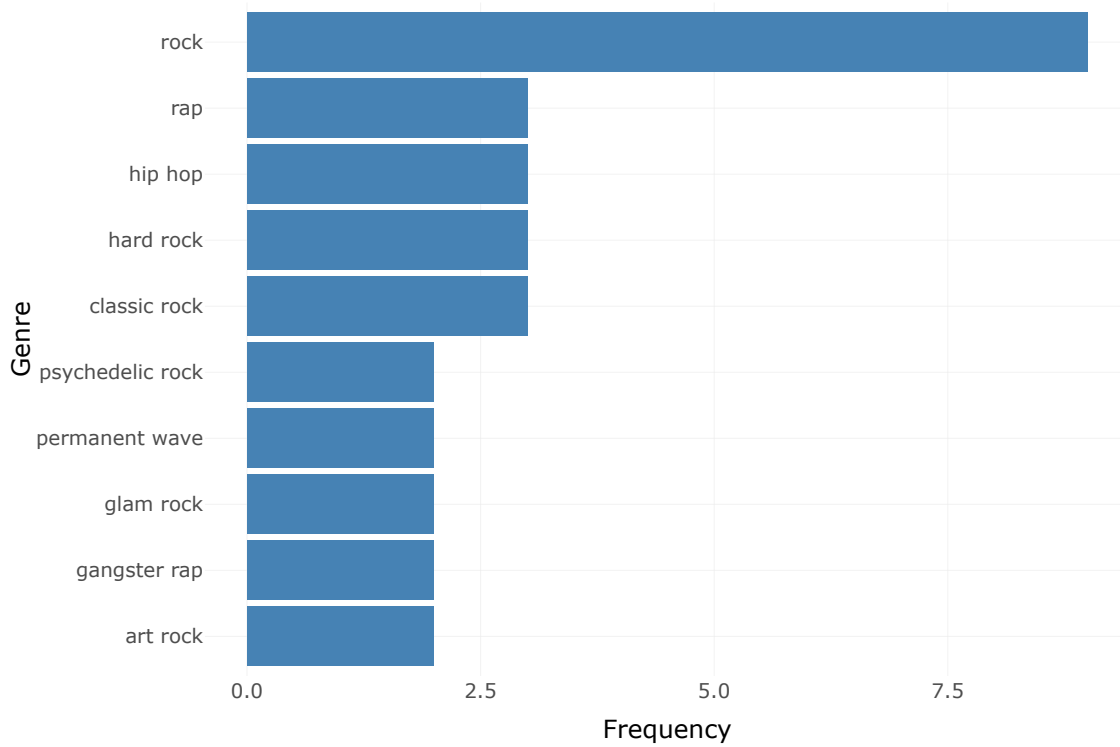
3.2 Rolling Stones Genres Revisited with Spotify

Fig 3: Top 10 Music Genres (Rolling Stones)



In Figure 3, we look at the most occurring genres amongst all the artists in Rolling Stones list. Rock, undoubtedly comes at the first. There are other forms of Rock that appear like hard rock, album rock, classic rock, folk rock etc.

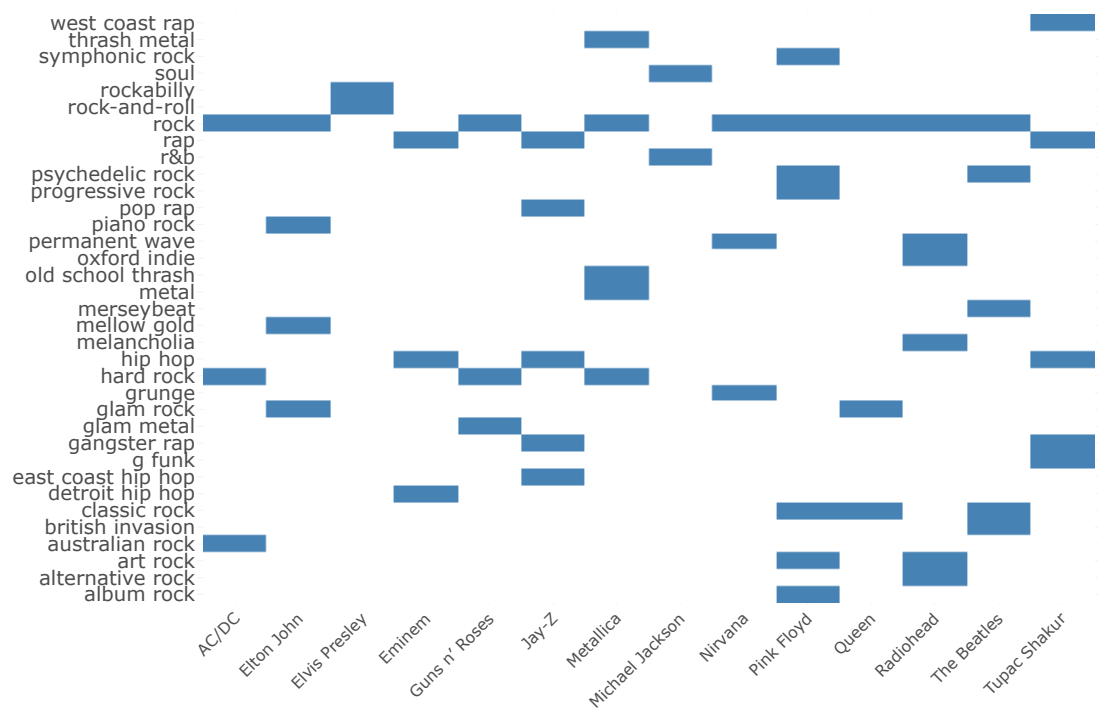
Fig 4: Top 10 Music Genres (2023 Spotify)



In Figure 4, we look at those genres that appeared in the list of artists with highest followers and popularity on Spotify. We find new genres like rap, glam rock, gangster rap, and hip hop. Rock and classic rock, remained evergreen in 2023 as well.

3.3 Similarities amongst Spotify's Top Rankers

Fig 5: Artist-Genre Association Heatmap



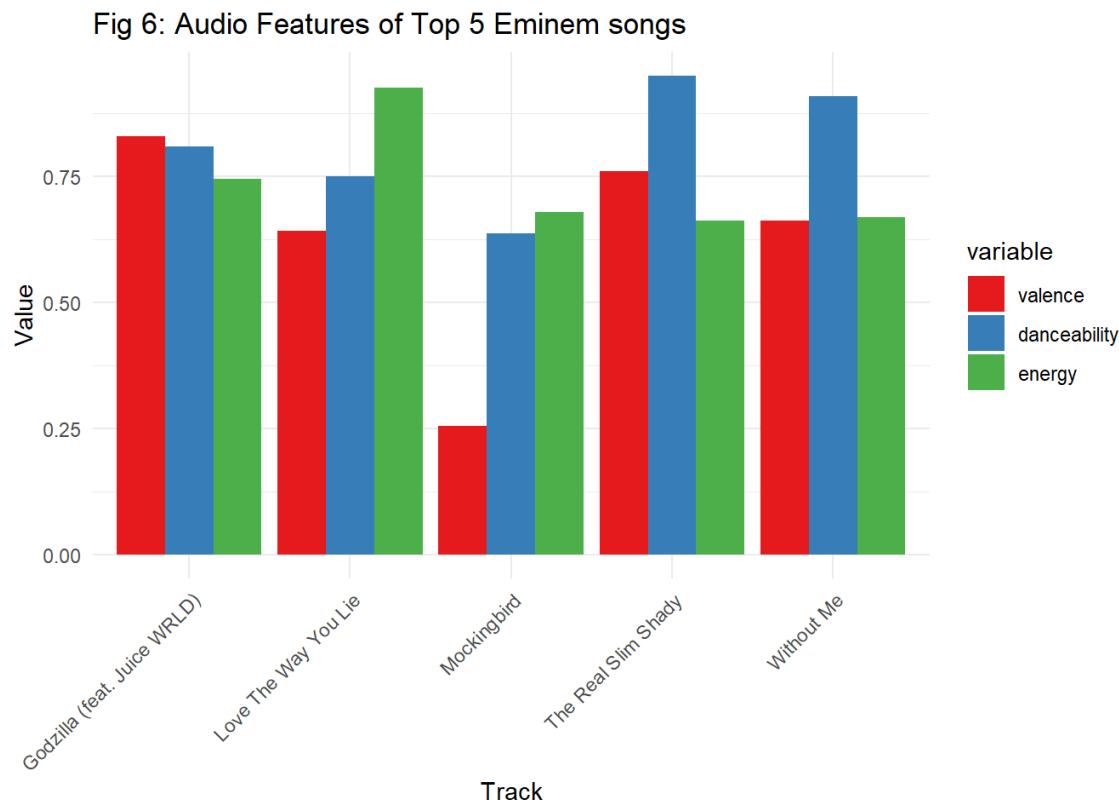
In Figure 5, we look at the 14 artists who have either the highest followers or popularity on the Spotify platform in 2023. Here, we can look at how similar one artist is to another in terms of genre. It is notable that Eminem is the sole singer in the genre Detroit Hip Hop. This novel aspect could also be attributed to his successful engagement. The genre of rap which was nowhere to be found amongst the top artists in Rolling Stone list, now has 3 artists (Tupac Shakur, Eminem, JayZ). An interesting aspect here is that Michael Jackson has his niche in soul and R&B, and has been one of the pop icons for all generations.

3.4 Billboard Rankings 2023

##	[1]	"Nirvana"	"Elton John"
##	[3]	"Queen"	"Metallica"
##	[5]	"Creedence Clearwater Revival"	

These are the rock artists from the Rolling Stones list that appeared on 2023 Year-End Charts, showing that their music is still liked by people even in 2023. Link (<https://www.billboard.com/charts/year-end/2023/top-rock-artists/>)

3.5 Eminem Phenomenon



In Figure 6, we see high danceability and energy , which is a feature of the genres in which Eminem sings. This trend matches with the more energetic sings liked by our generation.

Spotify has set their scales as:

- Track being danceable. (0 to 1)
- Energy of a track. (0 to 1)
- Valence: the positivity or happiness of a track (0 to 1)

name	popularity
Dr. Dre	78
50 Cent	82
Snoop Dogg	81
2Pac	78
DMX	69

The table shows the top artists who are similar to Eminem.

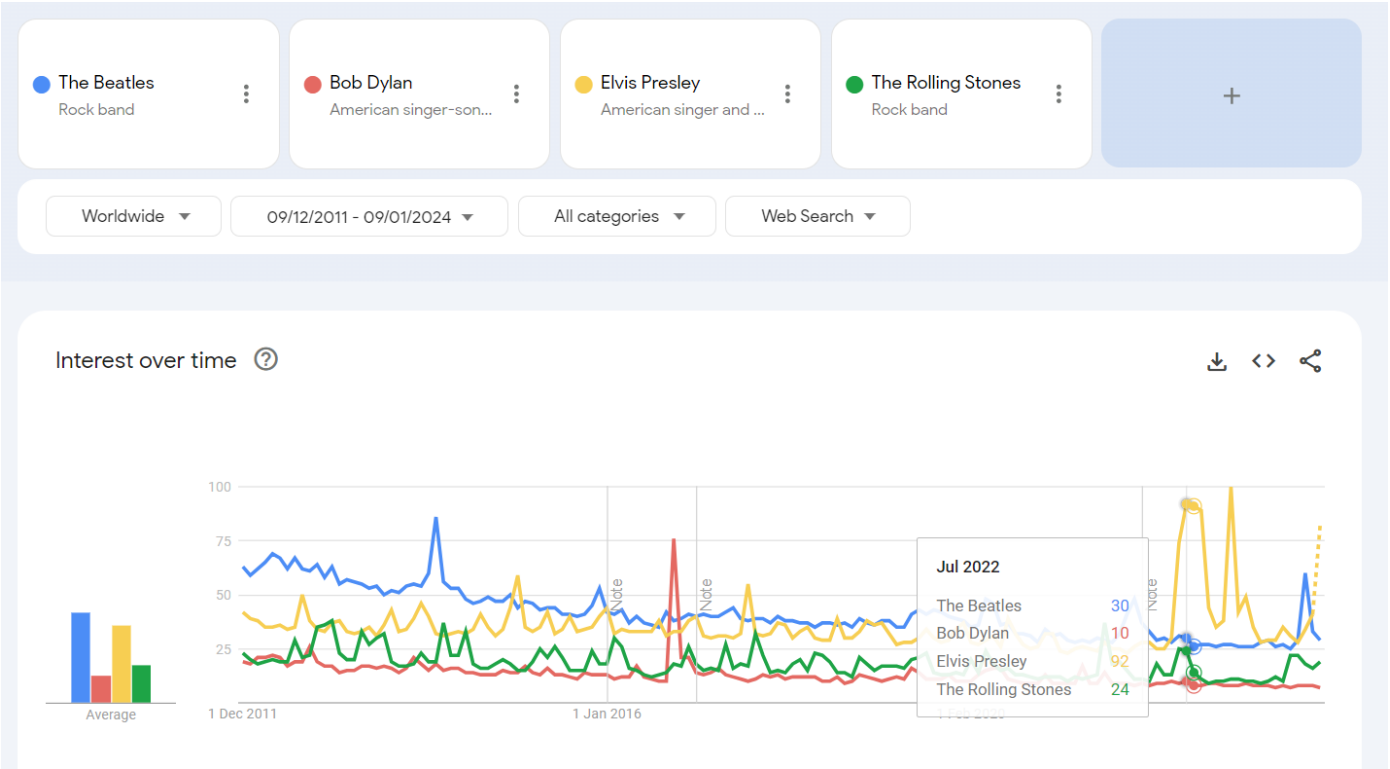
3.6 Rock Editor's Picks: Best Rock & Alt Songs of 2023 (Spotify)

In this section, we look at the latest playlist by Spotify in which they pick the best Rock & Alternative songs for 2023. Link (<https://open.spotify.com/playlist/37i9dQZF1DX8YNmLOBjUmx?si=999fd88a4b054b33>)



The song Now and Then appears in the playlist.

3.7 Tune into the Top 4 Pioneers 🎵



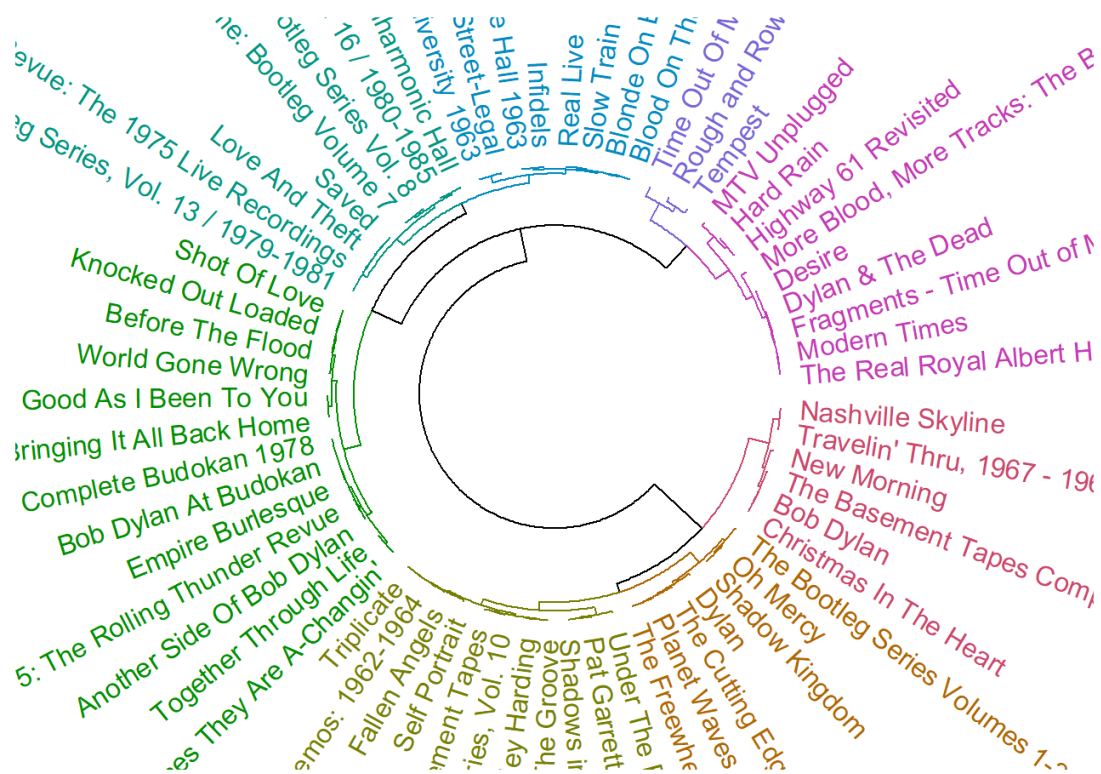
The Google Trend shows the spike in interest for Elvis Presley. This was due to a new movie documentary made on him, which thereby increased public interest for the artist. Episodes like these have always generated more interest in their music.

Beatles

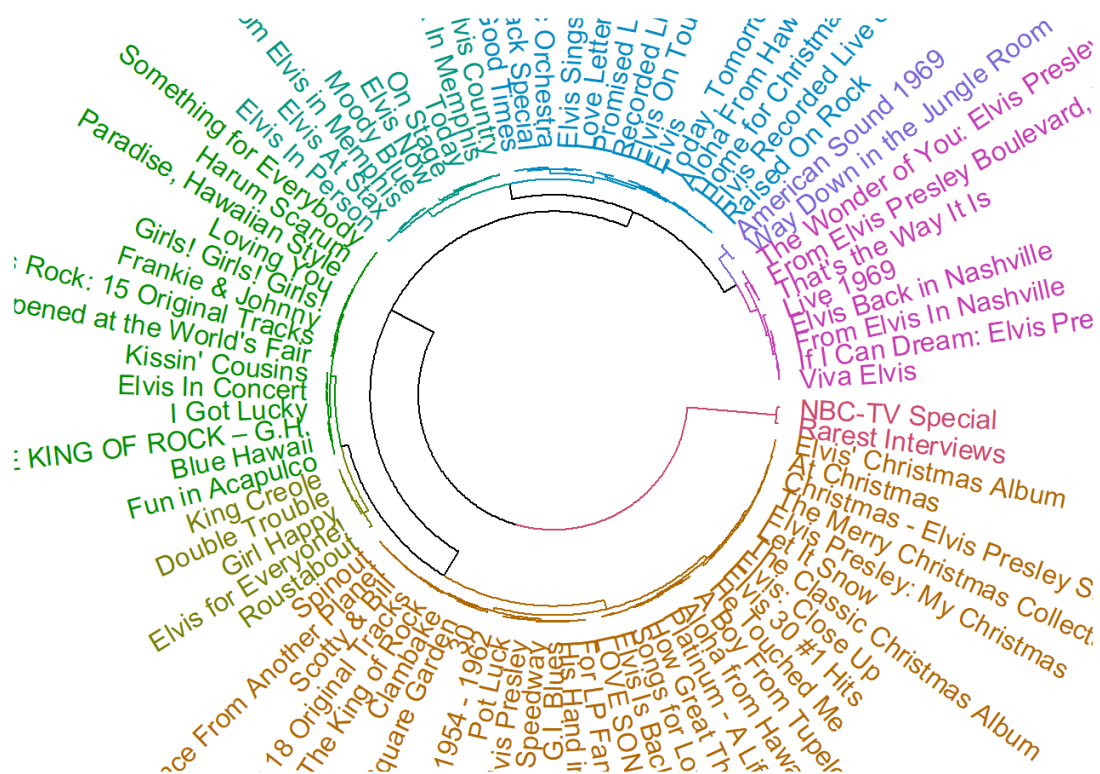


The dendrogram shows the albums for the artist, and attempts to find similarities in them based on features.

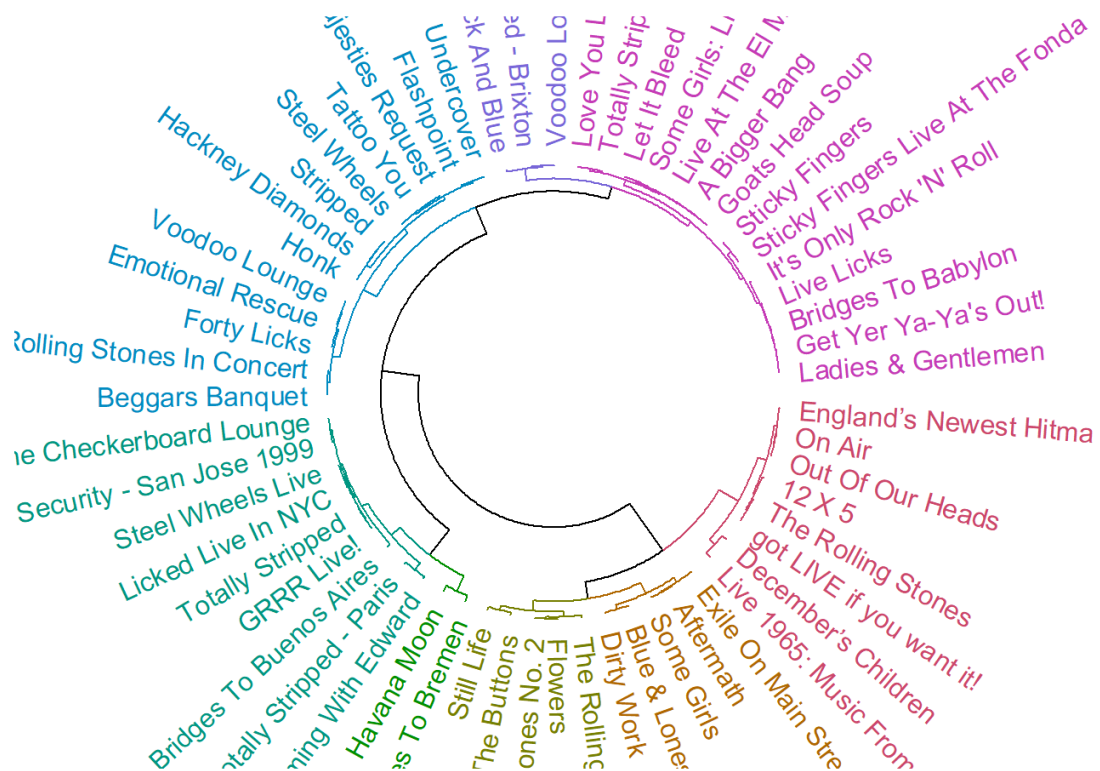
Bob Dylan



Elvis Presley



The Rolling Stones



3.8 Conclusion

The goals of this notebook were to analyze the endurance of music of the Rock Artists who appeared in the Rolling Stones 2011 in the current times. The following three conclusions summarize of what I have described in the notebook.

- **Conclusion 1:** The Evolution of Preferences: There's a noticeable shift in fan preferences, with rap, exemplified by the popularity of Eminem, emerging as a predominant favorite in recent times. However, it's also evident that Rock artists maintain a significant following, underlining the genre's sustained appeal.
- **Conclusion 2:** Energetic and Danceable Tunes: The analysis reveals a preference for songs with high danceability and energy, a characteristic that has long been a hallmark of Rock music. This suggests that while the styles may evolve, the core elements that define Rock music continue to resonate with audiences.
- **Conclusion 3:** Timeless Appeal of Iconic Artists: Artists like The Beatles continue to be relevant, frequently appearing in modern playlists. This enduring popularity underscores the timeless nature of their music and its ability to transcend generational boundaries.