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Group Project

Spotify

Foundations of Computational Social Systems

Karl-Franzens-Universität & Technische Universität-Graz

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Inhalt

1 Introduction

Research Question

"To what extent has the popularity of Schlager artists in Austria increased or decreased from 2007 to 2024?"

Motivation

- *Schlager* is a culturally significant genre in German-speaking countries, known for its catchy melodies and nostalgic themes.
- This project can reveal trends in musical tastes, the impact of cultural events, and the longevity of artists' popularity.

Background

- Use weekly global charts from March 2007 onwards to track changes in Schlager artist popularity.
- Identify specific Austrian users who frequently listen to Schlager and analyze their weekly listening history.

Steps:

1. Data Collection from Last.fm API:

- **Track Popularity Over Time**: Use the Last.fm API to gather data on the listening history of Schlager artists. You can pull data for individual tracks or albums and track their frequency of plays by Austrian users.
- **Top Tracks/Artists Data**: Collect data on the most played tracks and artists in the Schlager genre. You can filter the data by location (Austria) and timeframe (2007–2024).
- **Metadata for Artists**: Gather information such as the number of listeners, play counts, and rankings of specific Schlager artists in Austria over time.

2. Identify Schlager Artists:

- **Genre Classification**: Use the Last.fm API to gather a list of artists tagged as "Schlager" in the genre field. This will help refine your focus to only those artists.
- **Artist Profiles**: Pull detailed data about each Schlager artist, such as the number of listeners over time, which will provide insight into their popularity.

3. Quantifying Popularity:

- **Play Count and Listener Count**: Analyze the number of plays or the number of listeners for each Schlager artist over time. Track how these metrics change on a weekly, monthly, or yearly basis.
- **Chart Positions from Last.fm**: If available, retrieve the historical chart positions of songs by Schlager artists within Austria or globally. Compare these positions to determine if the artists are maintaining, rising, or declining in popularity.

4. Trend Analysis:

- **Visualize Listening Trends**: Use the data from the API to track changes in the number of plays or listeners for each artist. Visualize this with graphs showing peaks and valleys to assess trends over time.
- **Compare Years**: Compare data across different years to see if there's a general upward or downward trend in the popularity of Schlager music in Austria.

5. Cultural Events Correlation:

- **Event-Based Trends**: Look for correlations between spikes in popularity and cultural events, media coverage, or new releases by artists. Use external sources to identify these events and cross-reference with Last.fm data.

6. User Listening History:

- **Personalized Data**: If possible, analyze the listening history of specific Austrian users who frequently listen to Schlager. This will provide insights into individual behavior and whether trends are influenced by the listening habits of these users.

7. Statistical Analysis:

- **Yearly Comparisons**: Calculate the average number of plays or listeners for each year and analyze the changes. You can use statistical tools such as regression analysis to detect trends and quantify the extent of increases or decreases in popularity.
- **Correlation Analysis**: If you have multiple variables (e.g., plays, listeners, cultural events), perform correlation analysis to see which factors most affect the popularity of Schlager artists in Austria.

8. Data Visualization:

- Create time series graphs or heatmaps to represent changes in popularity over time. Visualizing this data will help clearly present your findings.

Using the Last.fm data will allow for more granular and localized insights into the popularity of Schlager artists over time, providing a richer source of information for your analysis.

2 Data retrieval

Popularity score:

This will provide the popularity score of each track, which reflects how well the track is performing (related to streams but not the exact count). #Artist & Track Data: You'll also get the artist name, track name, and release year. #The popularity score provided by Spotify is a useful proxy for analyzing how the popularity of a genre, artist, or track has evolved over time. #While it doesn't give you raw stream counts, the popularity score (ranging from 0 to 100) is closely tied to listener engagement, including streams, playlist inclusions, and radio plays. #Limitations: #the popularity score does not directly represent streams and can be influenced by factors such as playlist inclusion, recent plays, and algorithmic boosting. #Popularity may skew towards newer tracks due to recency bias in Spotify's algorithm

3 Data Processing

4 Analysis

5 Conclusion

6 Critique

7 References

https://www.artist.tools/features/spotify-popularity-index