Investigating The Foremost Factors Determining Artists' Success

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ABSTRACT

In today's dynamic and ever-evolving music industry, understanding the factors that contribute to an artist's success is of paramount importance. This interdisciplinary project combines the power of social media and data science through the utilisation of two prominent APIs, Reddit and Spotify, to explore the key determinants behind artists' achievements. This project aims to analyse vast datasets from these platforms to uncover patterns, trends, and insights that shed light on the factors influencing an artist's trajectory in the music industry. Within this virtual sea of text data, including posts, comments, and discussions in subreddits like 'r/spotify,' 'r/MusicRecommendations,' 'r/musician,' 'r/singer,' and more, there is a valuable subset of content that revolves around Spotify music, tracks, albums, and artists. We will leverage Reddit data to gain a deep understanding of fan engagement, sentiment analysis, and emerging trends within the online music community. Additionally, we will tap into Spotify's extensive music streaming data to assess metrics such as play counts, follower growth, and playlist placements.

KEYWORDS

Reddit API, Spotify API, MongoDB, Data Collection, Python, REST

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1 INTRODUCTION

The contemporary music industry stands at a crossroads of unprecedented change, driven by technological advancements, digital platforms, and evolving consumer preferences. In this era of rapid transformation, understanding the intricate factors that determine an artist's success has never been more crucial. Artists, both emerging and established, navigate a complex web of variables that shape their careers. From crafting captivating melodies to cultivating a devoted fan base and securing lucrative partnerships, the road to success is as diverse as it is challenging. To gain insights into this intricate web, we employ a fusion of social media analysis and data science methodologies, harnessing the capabilities of two prominent APIs: Reddit and Spotify. Reddit, as one of the largest and most diverse online communities, provides a treasure trove of fan discussions, reviews, and opinions. We delve into this wealth of data to discern patterns in fan engagement, sentiment analysis, and emerging trends within the music community. In parallel, we leverage Spotify's vast music streaming data, which encompasses play counts, follower growth, and playlist placements, offering a window into an artist's performance in the digital realm. In this project, we'll be gathering real-time music-related data to determine what musical style or performer is popular and trending when - we'll combine all this information from these sources within a certain time frame.

2 DATA SOURCE

Here, in this project we will be using Reddit data from Reddit Stream API and with selected subreddits we will be doing an analysis of the daily top hits from Spotify API. With the information retrieved from the playlist API such as artist name, id and album name we will use this id and also use artist details api to get genre and the artist popularity, This will be the Spotify Data Source. Moving on to the Reddit data Source, from the response of first 30 trending artists from playlist api , we will pass the Artist name to the subreddit for e.g. r/artist_name and get the top posts and discussion's from their official subreddit page and get the number of comments. Additionally we will also be having dataset from following subreddits such as r/Music, r/popheads and r/Spotify to plot down which artists is currently trending in Reddit or what genre people are now-a-days into.

3 MOTIVATION

The music industry is constantly evolving, with various music genres gaining popularity at different times. Online music streaming platforms like Spotify, Apple Music, and YouTube Music offer a wide range of genres and artists to cater to individual musical preferences. People often share new music discoveries with their friends and family, creating current music trends. This sharing

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is frequently done on social media with various hashtags, making it visible to a wider audience. The abundance of unrestricted music-related information from various sources can be harnessed for innovative applications in both academia and the music industry. In this project, we aim to collect real-time music-related data from social networking sites like Reddit and a major music streaming service such as Spotify. By combining data from these sources over a specific time period, we will identify popular music styles and artists.

4 OBJECTIVES

Our project's primary goal is to gain a deeper understanding of people's music preferences, identify trending artists and albums, and track how these trends evolve over time. Additionally, we are specifically interested in analyzing the most popular artists discussed on Reddit in relation to the data we gather from Spotify. We will select the top artists and music from Spotify and assess whether they are also gaining traction on Reddit.

5 RESEARCH QUESTIONS

(1) Is there a correlation between the level of activity on artist-specific subreddits (e.g., official subreddits) and the artist's success on Spotify, measured by metrics such as number of top hits and overall popularity?
(2) How do the music genres discussed on Reddit correlate with the genres that users listen to on Spotify, and can we identify any trends in genre preferences from these discussions?
(3) To what extent can the engagement metrics from Reddit (e.g., post popularity, comments, sentiment) and Spotify (e.g., daily top hits, artist details, popularity index) predict the commercial success and overall popularity of artists, and are there specific patterns or trends that indicate a higher likelihood of success within the music industry (sentiment analysis on the comments)?

6 METHODOLOGY

We are going to perform following analysis on the following dataset:

Using data set we have collected in the database, we will be performing descriptive analysis with help us give a patterns and connections. We will retrieve details from the playlists API which we have selected - the daily top hits; and get hit playlists, artists details and music genres. On that we will also collect artists details and their associated genres and will do a descriptive analysis of what genre is currently followed and listed to in the given time frame. For comparison we will also gather details from the subreddits such as r/Music, r/Spotify and r/popheads to get to know what genre related discussions are going on at the same time frame. We will also be looking at the current posts on the artists official subreddit pages and look into which tracks, albums and playlists are trending and the number of comments on that particular posts. We will analyze multiple factors like genre, popularity of artist and tracks and by collecting all the data related to the popular artists which we will plot a graphs, which will give us a clear clarity onto change in trade with time.

7 CONCLUSION

In conclusion, our project has provided valuable insights into the dynamic world of music trends and preferences. Through a combination of data collected from Spotify and discussions on Reddit, we have been able to identify the artists and albums that are currently capturing the public's attention. We've observed how these trends change over time, reflecting the ever-evolving nature of the music industry.One of our primary focuses has been the analysis of top trending artists on Reddit in comparison to our Spotify data. This has allowed us to draw connections between online discussions and music streaming trends, shedding light on how artists gain popularity and recognition in the digital age. By merging the power of real-time social media data with extensive music-related information from streaming platforms, we've uncovered new avenues for research and potential applications in both academia and the music business. The project has not only enhanced our understanding of music trends but has also demonstrated the value of harnessing data from diverse sources to gain a comprehensive view of the musical landscape.

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