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Phase 1: Project Proposal

Introduction

With the advancement of technology, the world of music consumption has changed dramatically. The internet has made music freely available to anyone in the world, and uploading and sharing music has also become easier than ever. The music streaming market is huge and still continuing to grow. Currently, Spotify is the world's most popular music streaming service, with a market share of 31% and around 165 million subscribers (Mulligan, 2022).

As a service dedicated to distributing music, Spotify has algorithms for recommending songs to its users. It recommends popular songs and creates personalized playlists based on what type of music each user listens to. Spotify also has algorithms that score songs based on their “danceability,” “energy,” “loudness,” “key,” and, most importantly, “popularity,” which is what we will mainly be observing in this project.

Definition of Problem

Our project will focus on identifying trends in popular songs on Spotify and using these trends to predict song popularity. This is important not only to music audiences/enthusiasts, but also to musical artists, such as singers, bands, and songwriters. Looking into this data provides insight on why certain songs are able to generate more interest in communities, which can help artists understand what qualities or modifications to qualities (genre, danceability, energy, loudness, key), they can include or make to their music to attract a wider range of audiences and popularize their efforts. It is also said that “music and identity are inexorably linked, a reflection of our personal history, individuality, and perhaps more importantly, our humanity” (Resler,

2017). Thus, this research can aid understanding in communities and how music preferences can shape people's identities.

Motivation

As users of Spotify, we were motivated to look into predicting song popularity because music is such a prevalent part of our lives. Most of us listen to music every day during activities like walking, studying, driving, or hanging out with friends. We also spend time curating playlists and exploring new songs that fit our music tastes. With people having unique decisions when choosing music, we wanted to explore the why in what makes certain songs popular. Are there trends in popular songs that make them more well-known? By looking into this data, we can also see how our popularity predictions match our personal taste in music.

Another motivation for looking into song popularity was finding new music to listen to. One of the great things about Spotify is its huge database of music, but this also makes it hard to find new music because there are so many options to look through. We think that looking into song popularity could be a great way for us to find upcoming trends in music and new songs that we typically might not listen to.

Goals and Objectives

For this project, we have two main goals:

1. Identify any trends or patterns in genres and songs on Spotify that make them more well-known and popular.
2. If such a trend/pattern exists, predict which types of songs will be more popular using the identified trends.

To achieve these two goals, there are four main objectives to meet. The first objective is to get data for songs on Spotify and conduct data wrangling. Since Spotify has such a large

database of music, it's important to make sure our predictions are based on properly cleaned data. The second objective is to explore various algorithmic models. This involves seeing whether there are identifiable trends and building models on them. The third objective is to train our algorithm to predict which songs will become more popular. The last objective is to summarize and evaluate our results and connect them back to our original problem.

Sources

Mulligan, Mark. "Music Subscriber Market Shares Q2 2021." *MIDiA Research*, 18 Jan. 2022, <https://www.midiaresearch.com/blog/music-subscriber-market-shares-q2-2021>.

Resler, Seth. "5 Reasons Why It's Important to Teach Popular Music History." *Jacobs Media Strategies*, 28 July 2017, <https://jacobsmedia.com/5-reasons-why-its-important-to-teach-popular-music-history/>.