



**CS661: Big Data Visual Analytics
Group 20 Project Proposal**

Visualizing The Evolution Of Commercial Music

Group Members:

Sarthak Motwani (200887)
Milan Anand Raj (200584)
Pradumna Awasthi (200693)
Ujjwal Kumar (201059)
Abhinav Kumar Singh (200017)
Amanjit Singh (208070107)
Satya Bikash Nayak (200893)
Kunal Nayak (200534)

1 Introduction

Music is like a time capsule, preserving memories, emotions, and experiences within its melodies and rhythms. It's more than just a form of entertainment; it's a reflection of our culture, society, and values. Over the years, the way we listen to music, the genres we love, and the artists we idolize have changed dramatically. From the days of vinyl records to the era of digital streaming, the musical landscape has undergone a fascinating evolution. The music industry also has a huge economic impact across the globe. It creates jobs for musicians, producers, and others involved in making and selling music. Music also makes a lot of money through things like concerts, streaming, and merchandise. It brings in tourists and helps local businesses when there are music festivals and events. Plus, it drives innovation in technology, like better sound systems and streaming services, which helps more than just the music industry. We are thinking of designing an **interactive visual analytics platform that allows the users to understand the evolution of commercial music, in terms of its consumption, distribution and impact, across the globe over the years**. By delving into the evolution of the musical landscape, we aim to unearth its cultural significance and economic impact. Understanding these dynamics is essential not only for acknowledging the impact of the music industry but also for anticipating future trends and innovations in the industry.

2 Tasks

We have decided to perform the following tasks:

1. General Information about Global Music

- Visualize country-wise popular music genres globally.
- Highlight top artists from different countries, spanning both past and present.
- Showcase famous songs and albums that have left a significant mark on the global music industry.

2. Comparison between Music of the Past (1970s - 2000s) and Present (2000s - Present)

- Trace the evolution of commercial music sources, such as CDs, vinyl records, and digital platforms, in terms of units sold and revenue generated.
- Analyze major artists from the past, focusing on their commercial success, critical acclaim, and global impact.
- Identify best-selling albums and songs of the past, exploring their geographical origins and cultural significance.
- Examine popular music genres of the past across different regions.

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- Repeat the analysis conducted for past music (last three points), but now focusing on the contemporary era.

3. Case Study: Cultural and Economic Impact of Two Top Artists

- For the case study of a top artist in the era of 1970s to 2000s, we choose **Michael Jackson**. We visualize Michael Jackson's top selling albums, units sold, and revenue generated over time.
- Analyze the success of Michael Jackson's tours/concerts in terms of attendance and revenue generated.
- For the case study of a contemporary top artist, we choose **Taylor Swift**. We explore the cultural and economic impact of Taylor Swift, similar to the case study on Michael Jackson.

4. Analysis of Streaming Music: Spotify's Case Study

- Investigate the rise of streaming services and their contribution to the modern music landscape.
- Analyze top songs, artists, and albums on Spotify, highlighting their geographical distribution.
- Explore characteristics of top songs on Spotify, such as danceability, energy, liveness, and instrumentality.

3 Data Sources

We have chosen the following datasets from *kaggle*:

1. *Top Music Genres in different countries*
2. *Rolling Stone's List of Top 500 Music Albums of all Time*
3. *Top Music Artists according to Grammys from 1960 to 2018*
4. *Music Industry Sales (Vinyls to Streaming) from 1973 to 2019*
5. *US Recorded Music Revenue of different formats from 1973 to 2019*
6. *Best Selling Albums globally from 1990 to 2021*
7. *Michael Jackson's Album Sales (from bestsellingalbums.org)*
8. *Taylor Swift's Album Sales*
9. *Taylor Swift's Concert Tours' Attendance and Revenue generated*
10. *Spotify's Top 10000 Songs Comprehensive Dataset (1960 - Present)*
11. *Spotify's Top Artists by Monthly Listeners*

4 How Will The Overall Platform Look ?

We intend to make an interactive standalone visual analytics platform which would present the story of music evolution in a somewhat chronological fashion. Each task can have a separate section or page in the application. For example, the Homepage will have the visualization of general information about the global music. And then we can make separate sections or pages for comparing past and contemporary music. Similarly, we can have separate pages for the case studies on cultural and economic impact of music. Finally, a page can be dedicated to the visualization of the music streaming service, Spotify.

5 Work Division

We intend to divide the work in the following fashion among eight members. Two members would be working on the overall development of the application, i.e., integrating visualization components with the application pages. Three members would be working on developing various visualization components in Tasks 1 and 2. One member would be working on the case study of Michael Jackson and Taylor Swift (Task 3). Finally, two members would be working on the Spotify visual analytics (Task 4).

6 Expected Results

In the expected results, we aim to uncover the evolution of music over time through clear trends and comparisons between past and present. By analyzing historical data, we expect to identify changes in music genres, artist popularity, and the impact of technological advancements. Case studies on Michael Jackson and Taylor Swift will highlight their cultural and economic influence. Furthermore, our analysis of streaming data from platforms like Spotify will reveal modern music preferences and trends. Through interactive visualizations, users will gain a straightforward understanding of these insights, enhancing their appreciation for the ever-changing landscape of music.