

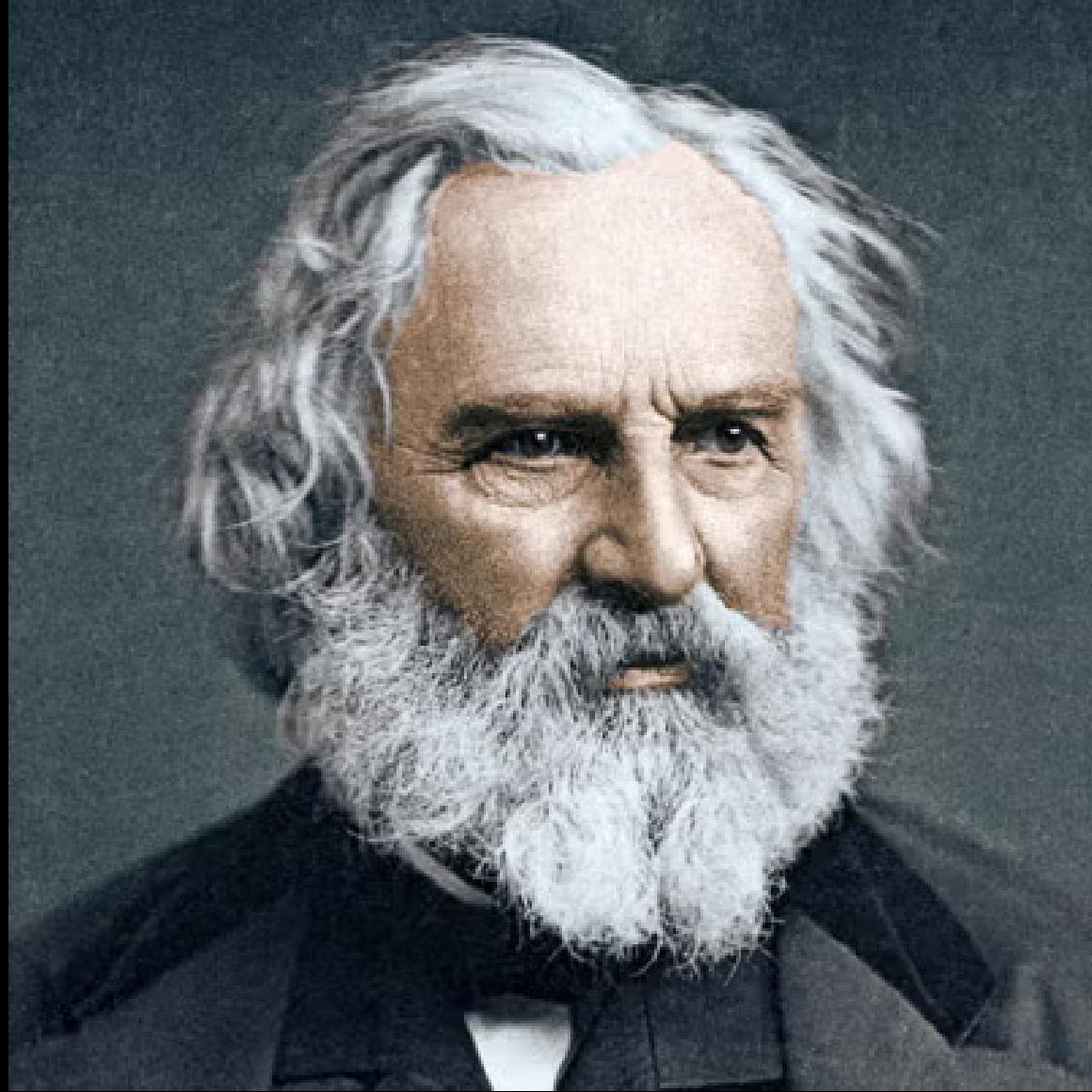


GROUP 3

# SPOTIFY “UNWRAPPED”:

*Analyzing Trends in Music Popularity and  
Characteristics (2000-2019)*

Start Slide >



Music is the universal language of  
mankind.

~Henry Wardsworth Longfellow



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# OUR AGENDA



1

The Proposed Topic & the Motivation Behind the Topic

2

The Target Audience for the Visualization

3

The datasets to be used / data to be collected

Next Slide





# THE PROPOSED TOPIC

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# SPOTIFY “UNWRAPPED”:

*Analyzing Trends in Music Popularity and Characteristics (2000-2019)*





# MOTIVATION BEHIND THE TOPIC



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## INTRODUCTION

Over time, music has changed dramatically due to *consumer preferences, technological breakthroughs, and cultural shifts*... Different genres have risen and fallen, and hit songs have shifted reflecting these changes.

Understanding the trends in music popularity can define the evolution of musical taste over time and what contributes to a song's success.

Source: Savage, Patrick E. (2019) *Cultural Evolution of Music*. Open Science Framework. Retrieved from <https://osf.io/uf5z3/>



# MOTIVATION BEHIND THE TOPIC

## OBJECTIVES



- Analyze trends and patterns in music popularity
- Develop an Interactive Visualization Tool
- Provide insights that can help industry professionals, artists, and enthusiasts.



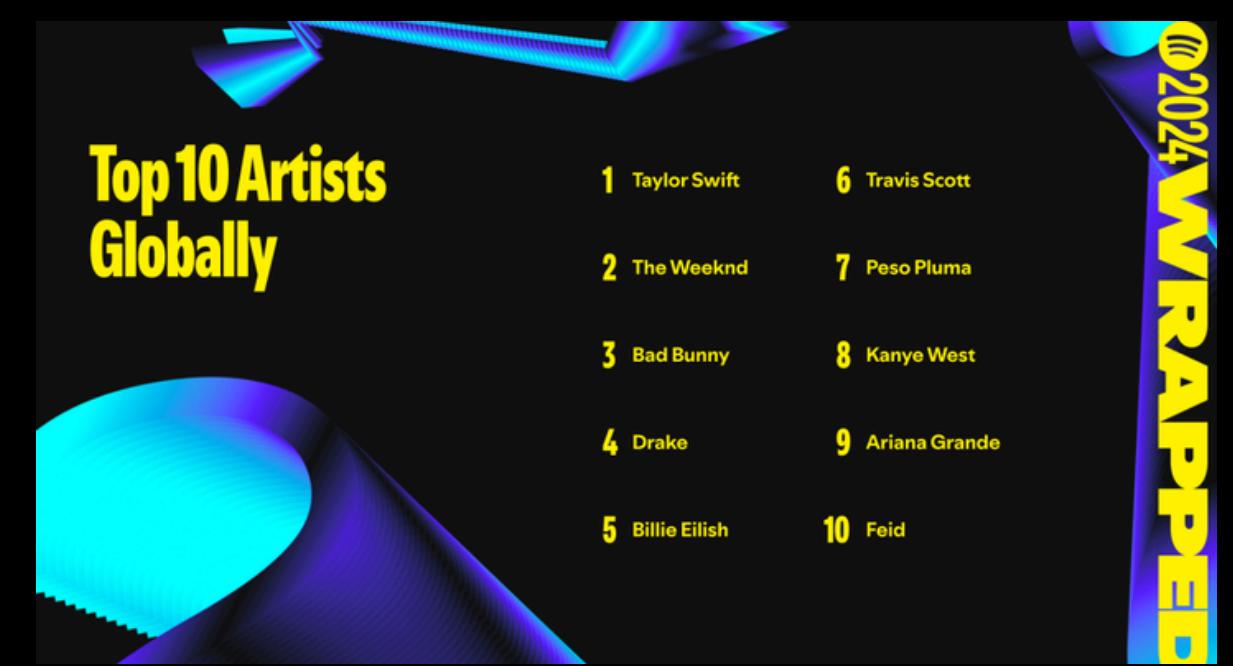
# MOTIVATION BEHIND THE TOPIC



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## PROBLEM STATEMENT

Despite the abundance of data on music rankings, streaming metrics, and artist preferences, we face difficulty in capturing an intuitive grasp on the valuable insights from this raw data...





# MOTIVATION BEHIND THE TOPIC



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## PROBLEM STATEMENT

1. What happens to song popularity over the years? Has it increased or decreased? Why might this be?
2. How did the popularity of different music genres evolve from 2000 to 2019?
3. Audio Feature Analysis: What are the average audio feature values (e.g., BPM, energy, danceability) for top songs each year?



# WHY PEOPLE LISTEN MUSIC?



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Expression

Enjoyment

Focus

Cultural Identity

Social Bonding

Source: de Leeuw, R. N. H., Janicke-Bowles, S. H., & Ji, Q. (2021). *How music awakens the heart: An experimental study on music, emotions, and connectedness*. *Mass Communication and Society*.



# THE MUSIC INDUSTRY



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## What Listeners Enjoy?

Song attributes?

Popularity?

Region?

Source: Schäfer, Thomas. (2016). *The Goals and Effects of Music Listening and Their Relationship to the Strength of Music Preference*. PLoS ONE. 11. 10.1371/journal.pone.0151634.



# THE VISUALIZATION IMPACT TO MUSIC INDUSTRY

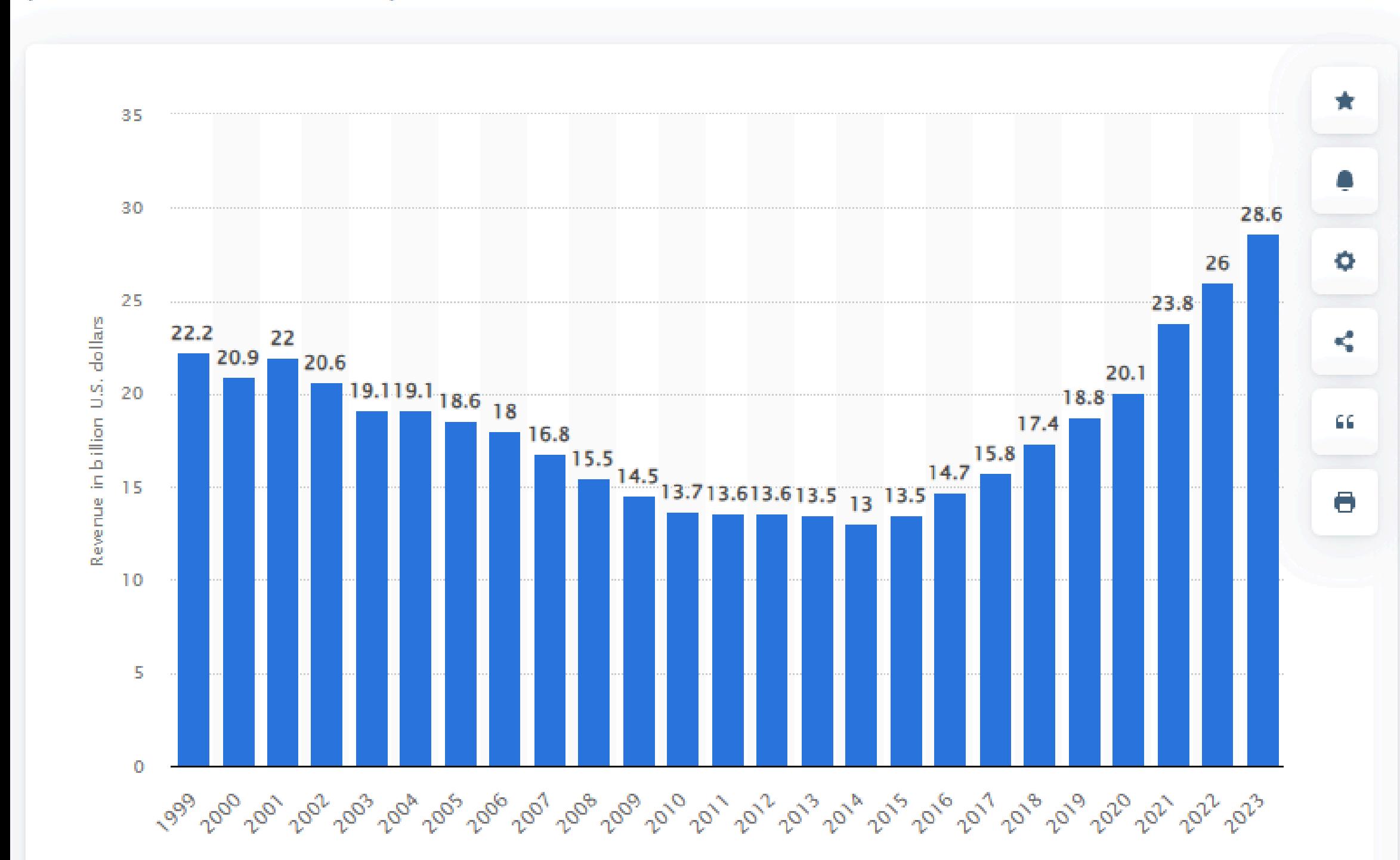


General, we aim to **uncover key trends in music** that drive success in the current market, particularly focusing on the interplay between music characteristics and audience engagement.

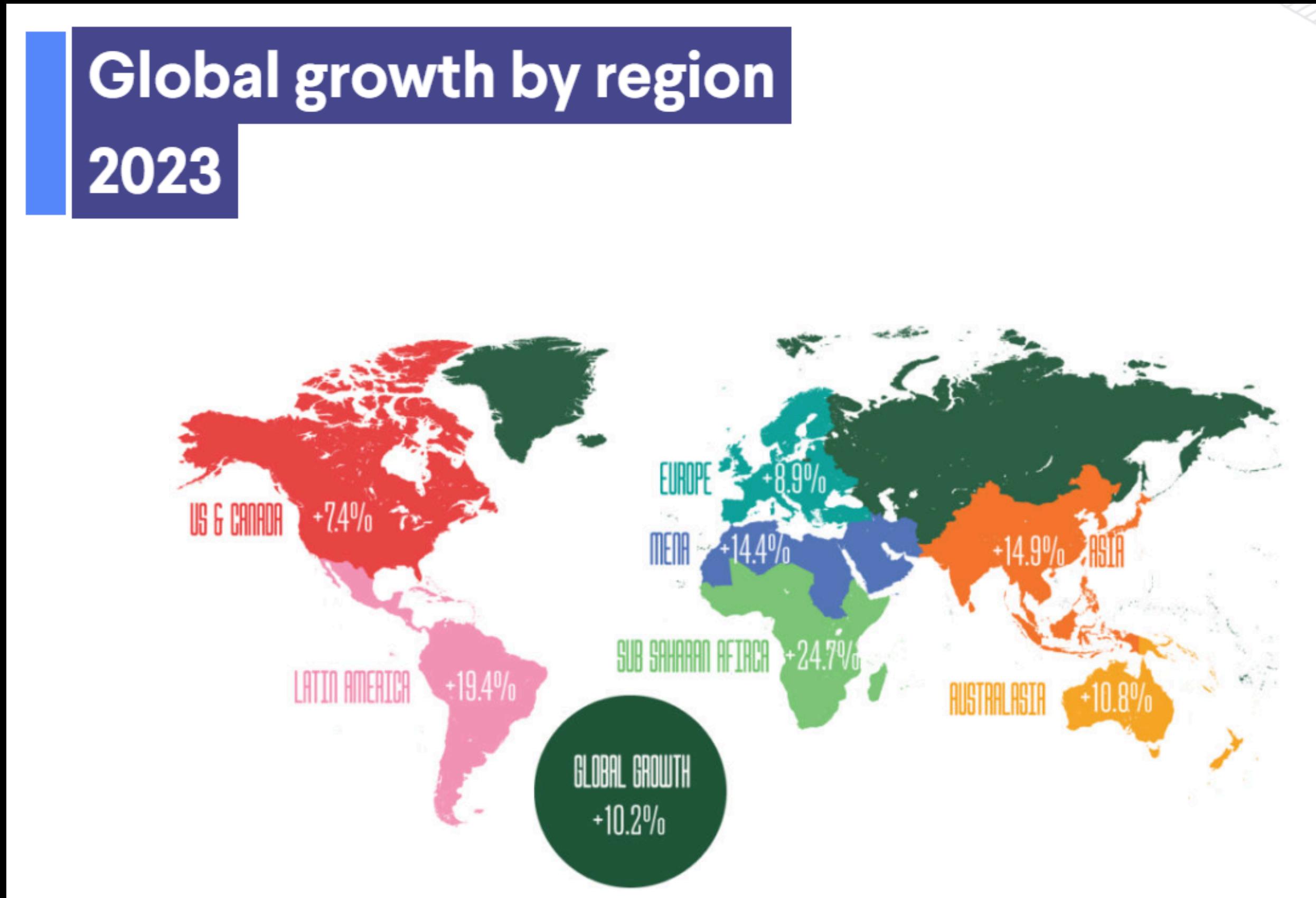
Additionally, the rapid rise of streaming platforms has led to changes in how people consume music.

# WHY IS IT IMPORTANT? AT THE INDUSTRY LEVEL (Statista 2024)

Global recorded music revenue from 1999 to 2023  
*(in billion U.S. dollars)*



# AT THE MARKET LEVEL (IFPI, 2023)



**\$28.6bn** the total value of the recording industry in 2023

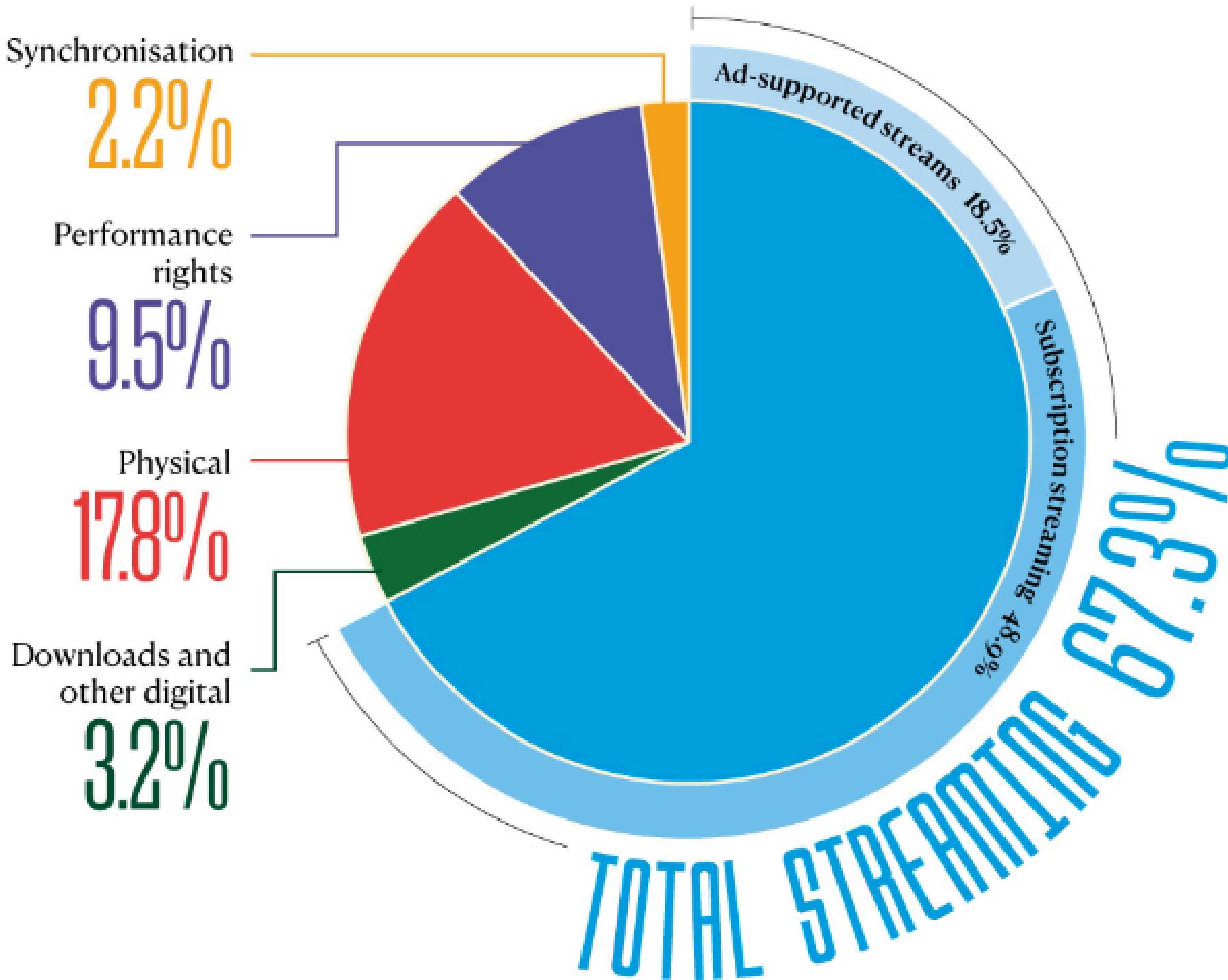
**+11.2%** growth in subscription streaming revenues in 2023

**67.3%** of global industry revenue comes from streaming

**\$7.1bn** is invested in A&R and marketing by record labels annually

\*Revenue amounts shown in US dollars

# Global recorded music revenues by segment 2023



# AT A PERSONAL LEVEL

## TOP INDIVIDUAL ACTIVITIES

People listen to music whilst engaging in a wide range of activities. Here are some of the most popular out of more than 40 different activities where music plays a part.



MUSIC PLAYS A CORE ROLE IN OUR MENTAL AND PHYSICAL WELL-BEING:

**71**

%

OF PEOPLE SAY MUSIC IS IMPORTANT  
TO THEIR MENTAL HEALTH



This is highest in:

BRAZIL

**83**  
%



PHILIPPINES

**88**  
%



SOUTH AFRICA

**86**  
%



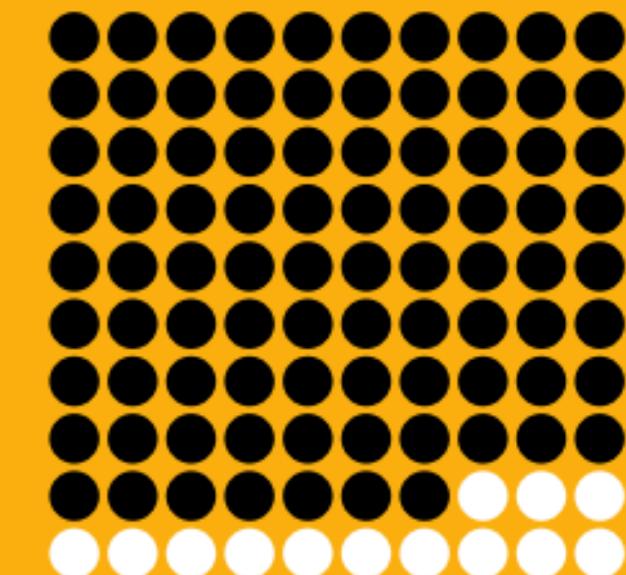
This is also particularly  
high among Millennials

**74**  
%



**78**  
%

SAY MUSIC HELPS THEM RELAX  
AND COPE WITH STRESS



IF IN HOSPITAL  
AND IN PAIN

**87**  
%

OF PEOPLE SAY THEY  
WOULD LIKE TO  
LISTEN TO MUSIC TO  
HELP THEM COPE



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# THE TARGET AUDIENCE

*The Target Audience for the Visualization*





# THE TARGET AUDIENCE



Music Enthusiasts & Listeners  
Music Industry Professionals  
Artists  
Producers/Record Labels



# THE TARGET AUDIENCE



Spotify's "UnWrapped" aims users to **visually explore** their top songs, artists, and genres over the past year, providing both the user and the platform with **key insights on engagement patterns**.



# THE TARGET AUDIENCE



Visualizing the number of **streams per song** or album **across regions** allows artists to tailor their promotional efforts to the countries with the **highest engagement**.



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# THE DATASETS

*The datasets to be used / data to be collected*





# THE DATASETS : Possible Data Sources



kaggle™



# THE DATASETS: Music Attributes Dataset



#	Artist	Song	Name of the Track	# duration_ms	Description: the length of the track in milliseconds.	# explicit	Description: Explicit content.	# year	Description: Year of the track.	# popularity	Description: The higher the value for more popular the song is.	# danceability	Description: A value of 0.0 is least danceable and 1.0 is most danceable.	# energy	Description: Represents a perceptual measure of intensity and activity.	# key	Description: The key the track is in.	# loudness	Description: The overall loudness of a track in decibels (dB).	# mode	Description: The modality (major or minor) of a track.	# speechiness	Description: Speechiness detects the presence of spoken words in a track.	# acousticness	Description: A confidence measure from 0.0 to 1.0 of whether the track is acoustic.	# instrumentalness	Description: Predicts whether a track contains no vocals.	# liveness	Description: A measure from 0.0 to 1.0 indicating the presence of an audience in the recording.	# tempo	Description: The overall estimated tempo of a track in beats per minute (BPM).	# genre	Description: Genre of the track.
1	Shawn Mendes	1779	1779 unique values	1779		False		2018		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
2	Drake	1779	1779 unique values	1779		False		2018		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
3	Olivia Rodrigo	1779	1779 unique values	1779		False		2020		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
4	Britney Spears	Cheers... I Still Do Again	771779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
5	Linkin Park	All The Small Things	1779	False		False		1999		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	rock, pop	21%			
6	Faith Hill	Breathe	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	country	21%			
7	Bari-Jack	It's My Life	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	rock, metal	21%			
8	AVICII	Eye Ryry Ryry	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
9	Kanye	Stronger	1779	True		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	hip hop, pop, R&B	21%			
10	Enrique Iglesias	The Real Slim Shady	1779	True		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	hip hop	21%			
11	RedOne	Rock DJ	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	rock	21%			
12	Destry & Child	Key By Name	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	pop	21%			
13	Madonna	Lucky Star	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38		100	dance/electronic	21%			
14	Gaga, Lady	Bad Romance	1779	False		False		1998		0.01		0.01		1		-0.28		0.02		0.38		0		0.02		0.38	<img alt="Histogram of tempo showing a right-skewed distribution with a peak around 100 BPM."/						



# THE DATASETS : Challenges in Gathering Data

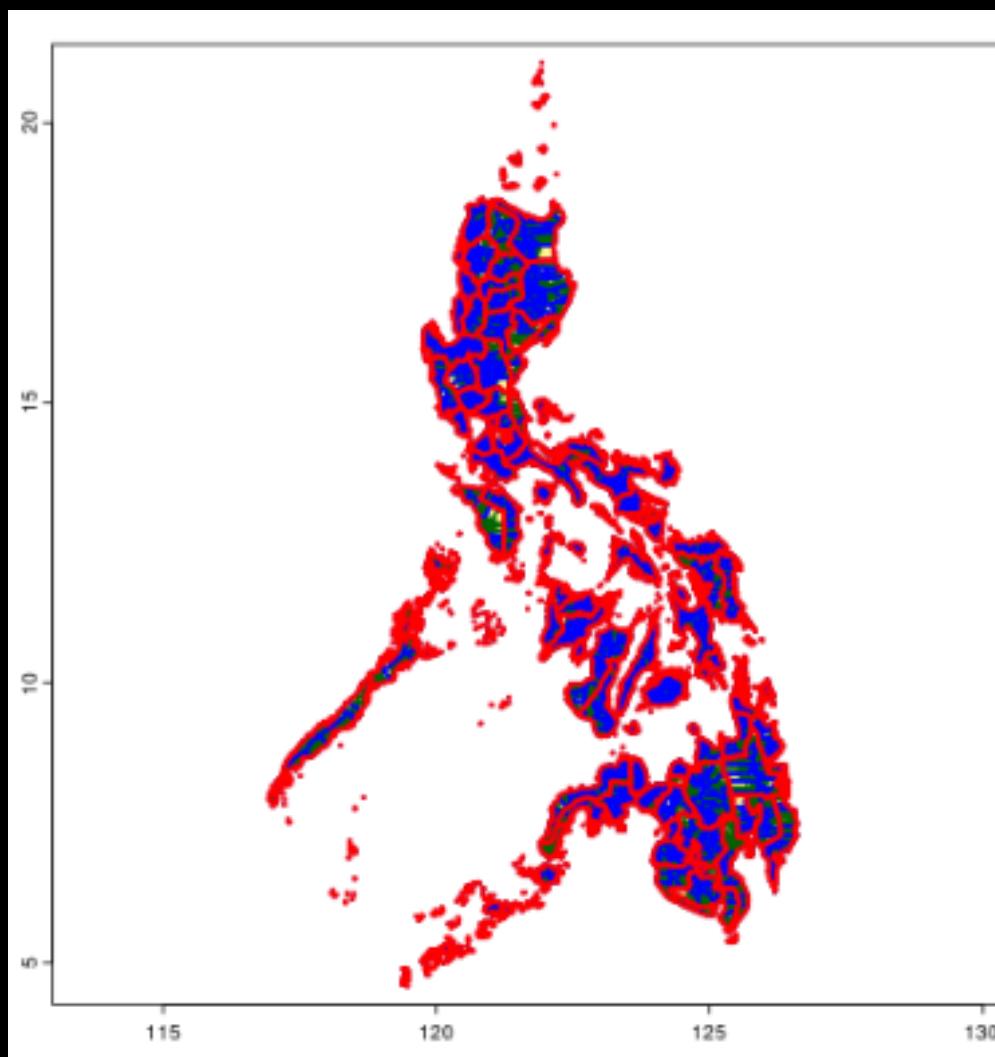


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Access and API Limitations  
Missing and Incomplete Data  
Data Standardization  
Privacy and Ethical Concerns  
Data Volume and Scalability



# THE DATASETS: Additional Data to Be Collected



Geospatial Data

The screenshot shows the Spotify for Developers website with a purple header. The main navigation bar includes 'Documentation' (which is highlighted), 'Community', and 'Log in'. On the left, there's a sidebar with 'Web API' selected, followed by a list of topics: Overview (which is highlighted), Getting started, Concepts, Tutorials, How-Tos, REFERENCE (with links to Albums, Artists, Audiobooks, Categories, Chapters, Episodes, and Genres), and a search bar at the bottom.

**Web API**

**Retrieve metadata from Spotify content or control playback**

Spotify Web API enables the creation of applications that can interact with Spotify's streaming service, such as retrieving content metadata, creating and managing playlists, or controlling playback.

**Getting started**

This is where the magic begins! The following steps will help you to get started with your journey towards creating some awesome music apps using the API:

1. Log into the [dashboard](#) using your Spotify account.

Streaming Data

## REFERENCES

- IFPI. (2023). *Engaging with music 2023 [Report]*. Retrieved February 1, 2025, from [https://www.ifpi.org/wp-content/uploads/2023/12/IFPI-Engaging-With-Music-2023\\_full-report.pdf](https://www.ifpi.org/wp-content/uploads/2023/12/IFPI-Engaging-With-Music-2023_full-report.pdf)
- Statista. (2024). *Global revenue of the music industry from 1999 to 2023 [Graph]*. Retrieved February 1, 2025, from <https://www.statista.com/statistics/272305/global-revenue-of-the-music-industry/>



Group 3

# THE MEMBERS

- *Edmar Dizon*
- *Wilson Tang*
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- *Jonalaine Aporado*
- *Vince Jefferson Tadeo*
- *Tyrone Garcia*

