

**What you listen to says a
lot about who you are**



Data Visualisation & Story Telling

Final Group Project

Study Group 14





1 Introduction

2 Our preferences

3 Song popularity ➔

4 Conclusion





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Have you ever thought about the data
behind the music that you listen to
every day?

LET'S HAVE A LOOK

[LEARN MORE](#)

Did you know you could find data on all your favourite songs with Spotify for Developers' API?

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Features that are recorded for each track

- **Popularity**
 - Higher popularity for songs that are being played a lot now compared to songs that were played a lot in the past. Artist and album popularity is derived mathematically from track popularity.
- **Properties:**
 - **Loudness:** loud music is usually high in decibels (dB)
 - **Liveness:** detects the presence of audience (more audience higher liveness)
 - **Speechiness:** whether there is presence of spoken works (audio books have a high speechiness)
 - **Explicit:** Whether or not the track has explicit lyrics
 - **Tempo:** whether the overall beats per minute (BPM) is fast or slow
 - **Duration_ms:** track length in milliseconds
- **Mood:**
 - **Danceability:** how suitable a song is for dancing, calculated based on tempo, beat, etc.
 - **Valence:** tracks with high valence sound more positive (happy and cheerful)
 - **Energy:** measure of a track's intensity and activity; high energy is typically loud and noisy
- **Context**
 - **Acousticness:** whether the music uses acoustic instruments, rather than electrical equipment
 - **Instrumentalness:** whether the music has a lot of instruments or just vocals

Metadata about music artists, albums, and tracks can be retrieved directly from the Spotify Data Catalogue.



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Did you know you could find data on all your favourite songs with Spotify for Developers' API?

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- **Acousticness:** whether the music uses acoustic instruments, rather than electronic instruments
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Friend Activity



Filippo



Jason



Marie



Ruchen



Sammy



Seems like we listened to similar music in 2020...

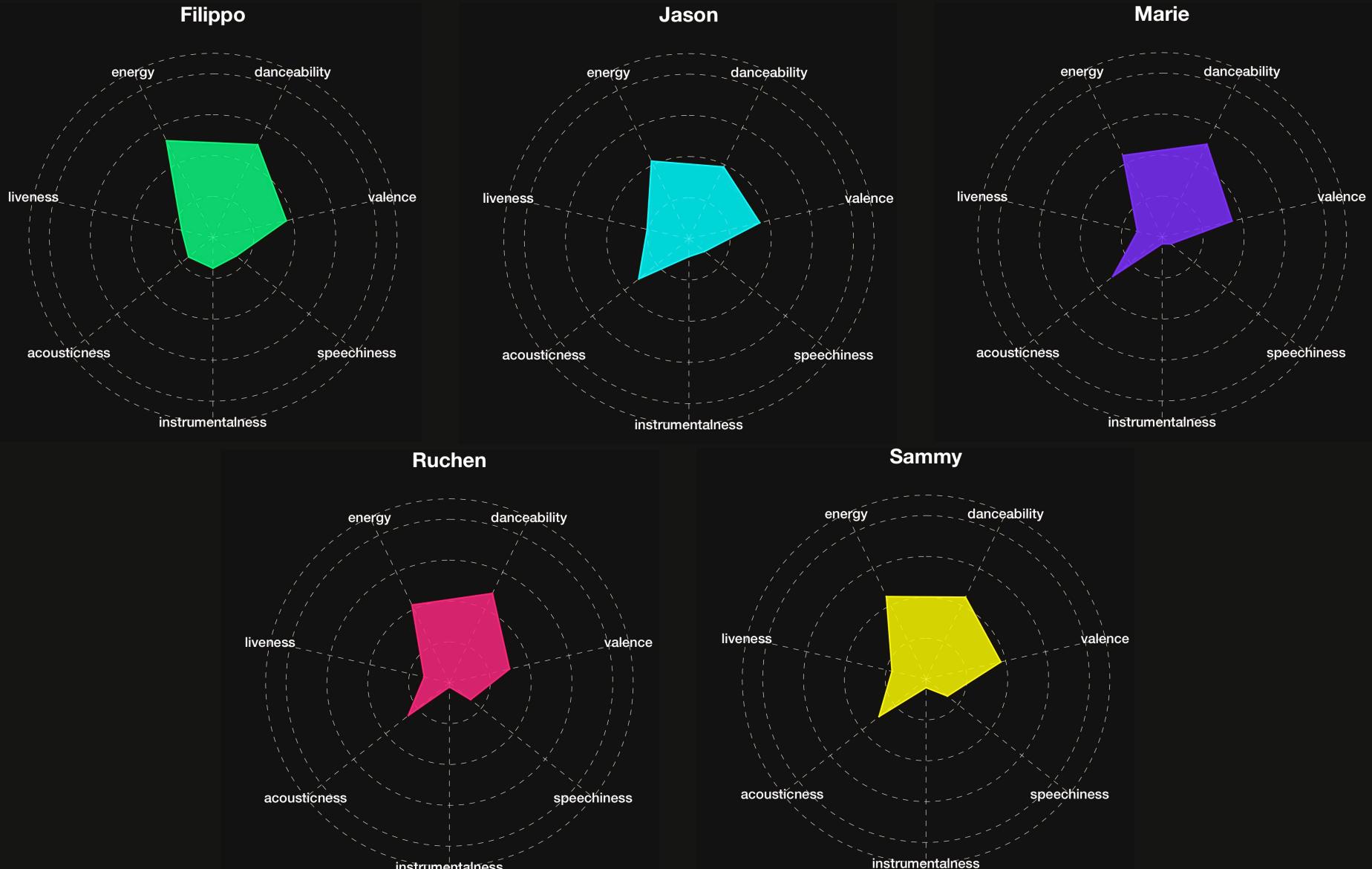
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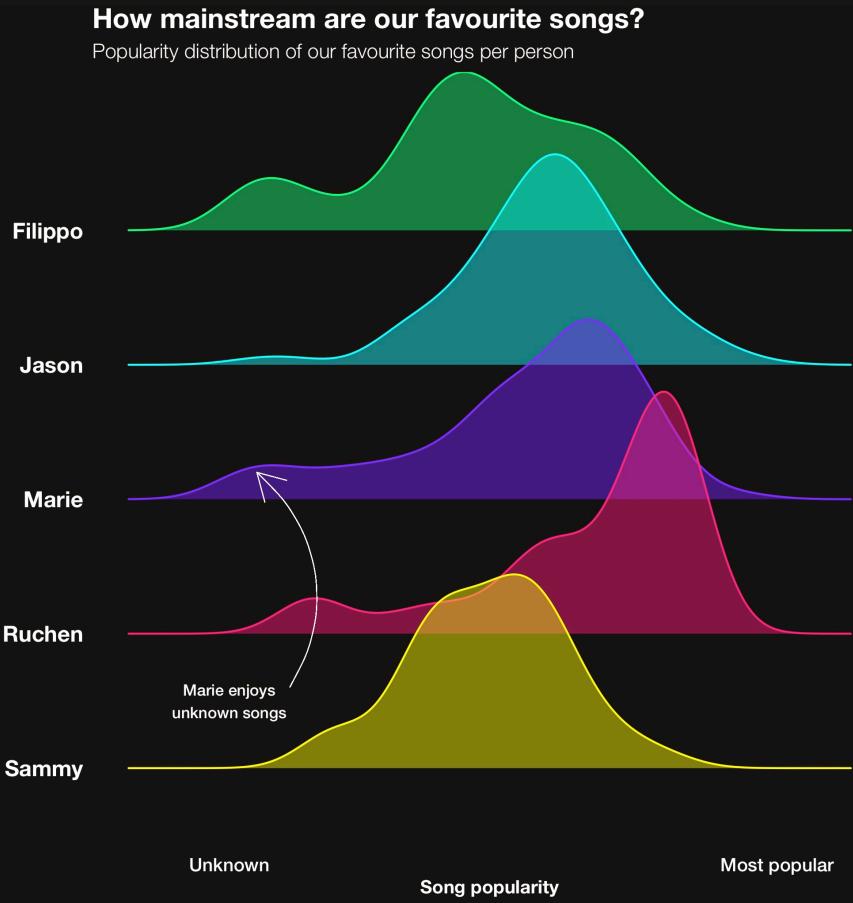
... there are some differences though!

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1 Introduction

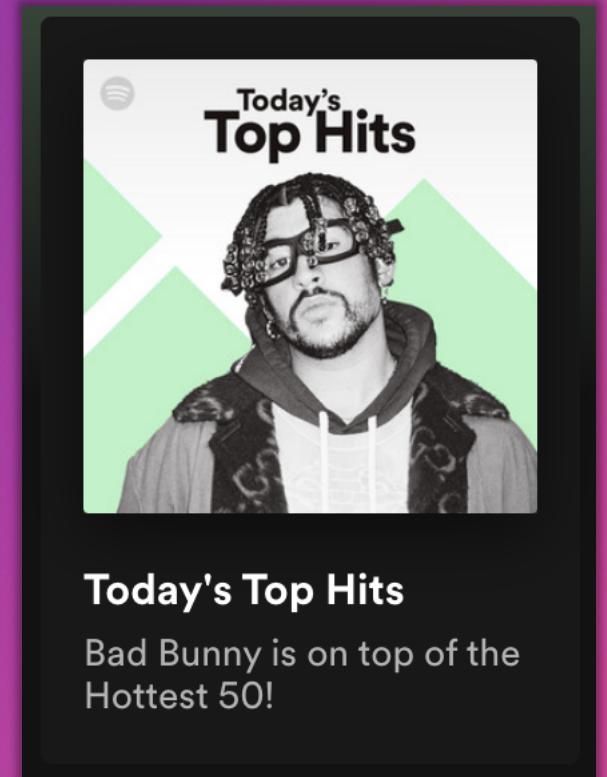
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But what makes a song popular?

Surely the most
popular playlist on
Spotify will tell us!





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PLAYLIST

Today's Top Hits

Bad Bunny is on top of the Hottest 50!

Spotify • 27,058,411 likes • 50 songs, 2 hr 27 min

#	TITLE	ALBUM	DATE ADDED	L
1	Dakiti E Bad Bunny, Jhay Cortez	Dakiti	1 hour ago	3:25
2	Prisoner (feat. Dua Lipa) Miley Cyrus, Dua Lipa	Prisoner (feat. Dua Lipa)	1 hour ago	2:49
3	positions E Ariana Grande	Positions	1 hour ago	2:52
4	Therefore I Am	Therefore I Am	1 hour ago	2:54



Why are Today's Top Hits today's top hits?

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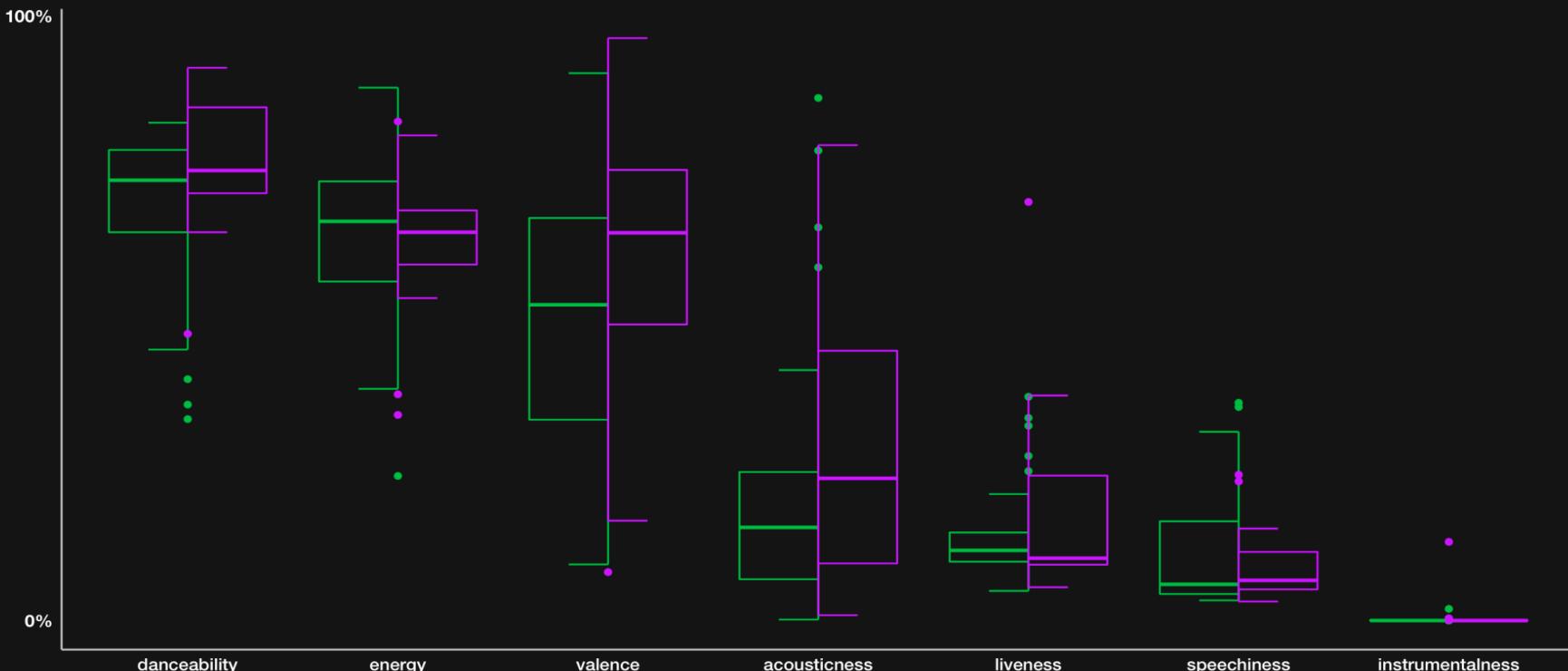
3 Song popularity ➔

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Popular Music is all about Danceability and Energy

No one cares about the instrument you play

Artist Gender: ♂ Female ♀ Male





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But this is only what makes today's
music popular

Let's look at more representative data and
see which factors are most important in
determining popularity

What makes a song popular?

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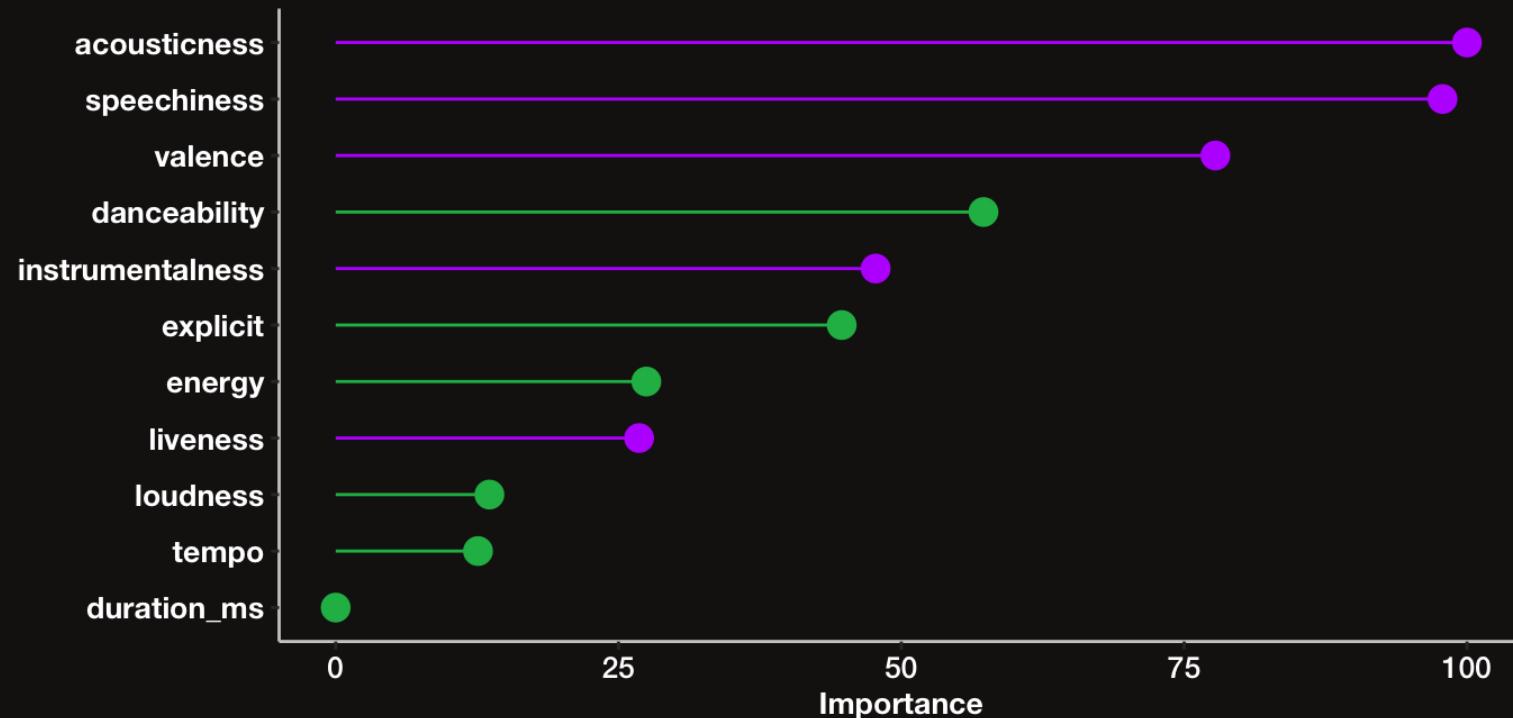
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**Produce a danceable song for success,
make an acoustic, happy song for failure**

Feature importance* of linear regression model



*Positive influence in green, negative in pink
Source: <https://developer.spotify.com>



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Unfortunately, song popularity isn't
this simple

We have to take more factors into
consideration...



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Genre

Content

Time period

Location

4 Conclusion

Unfortunately, song popularity isn't
this simple

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Music preferences differ highly by genre

Track dimensions for some of the most popular genre playlists

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Genre

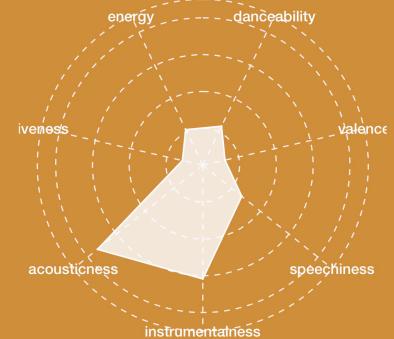
Content

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Classical



Hip Hop



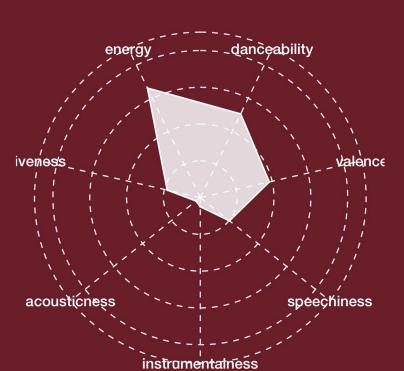
Rock



Indie



Metal



Country





Lyrics and their meaning highly influence songs

The most frequently used words in Today's Top Hits

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How did music evolve over the last 100 years?

LET'S HAVE A LOOK





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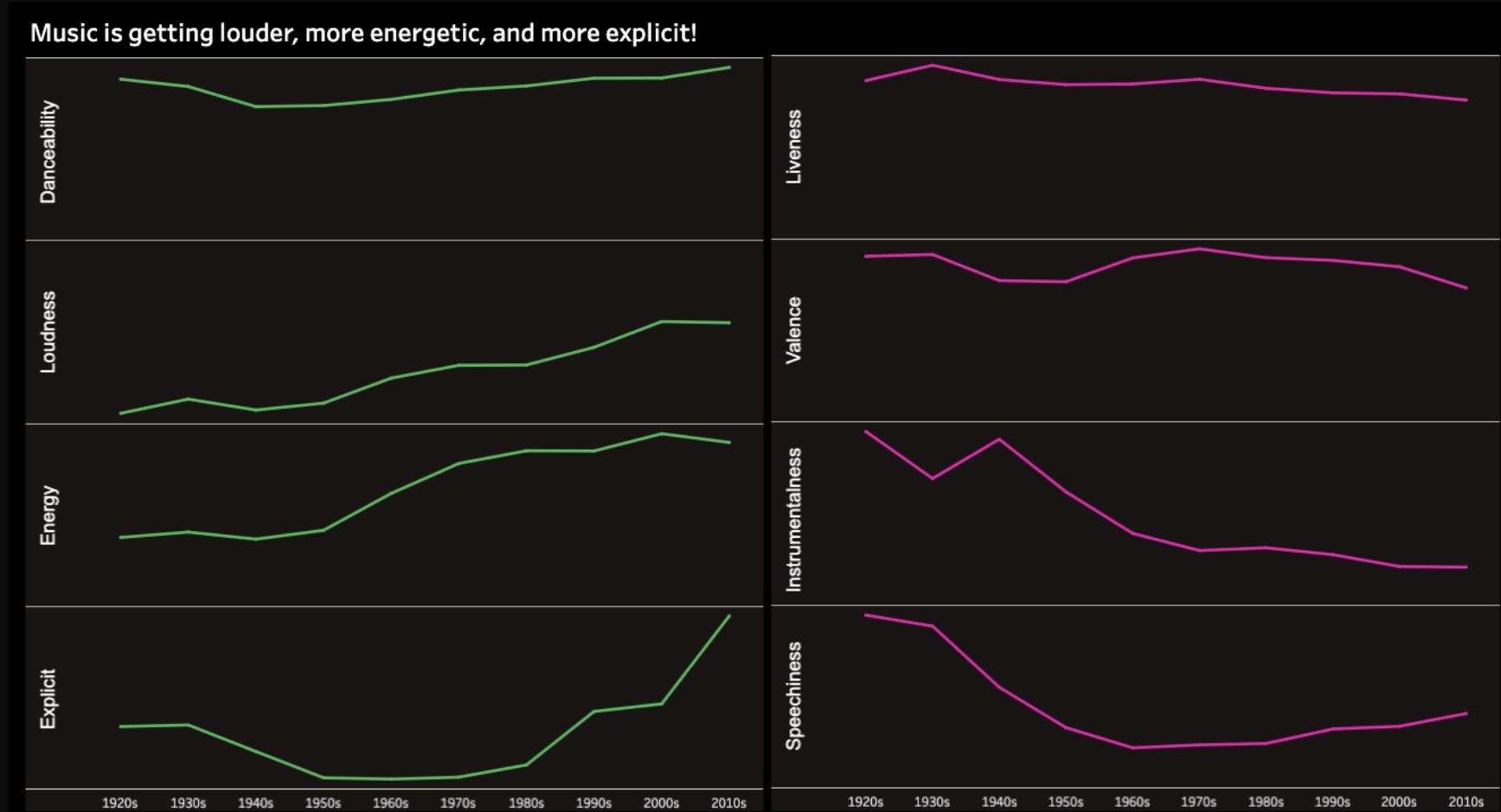
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Loud, energetic and danceable music gained more popularity while use of instruments became less preferred

Song feature evolution over the past 100 years





Some artists and songs still remain relevant today

Artist and song popularity by decade

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Success is short, enjoy it until someone else hits #1

The most prolific artists per decade

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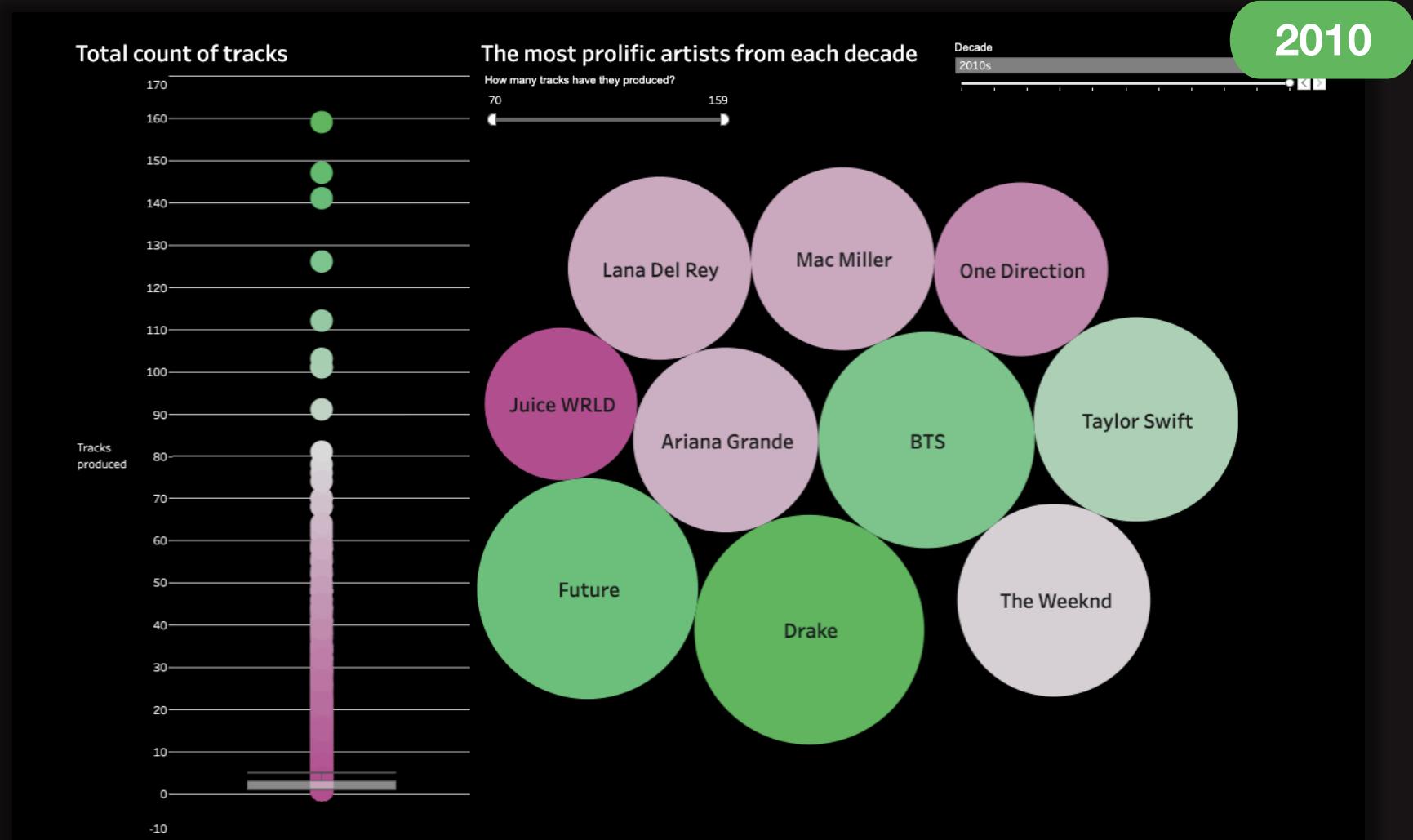
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And how does music taste differ
geographically?

LET'S HAVE A LOOK





Other countries, other customs

Streaming trends per country

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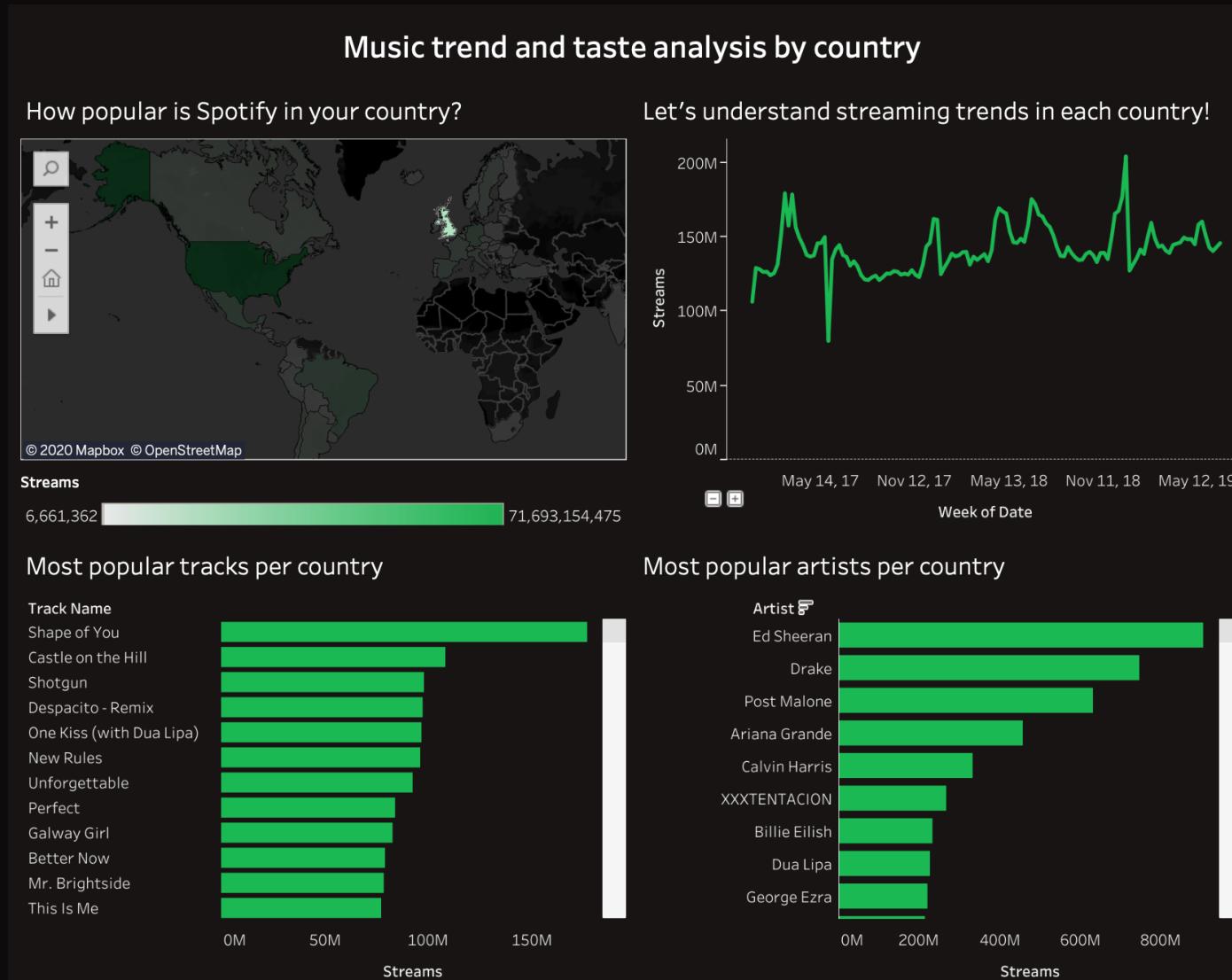
Content

Genre

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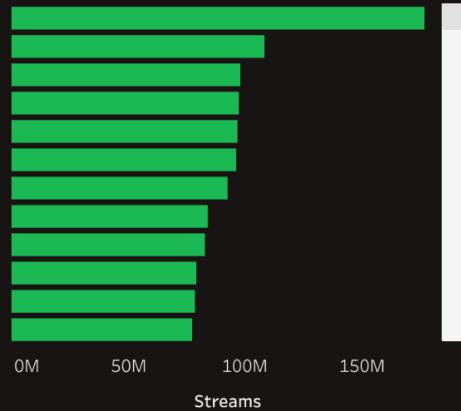
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Most popular tracks per country

Track Name

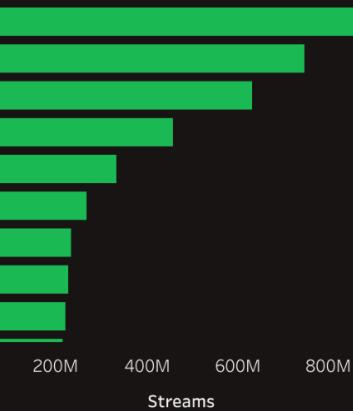
Shape of You
Castle on the Hill
Shotgun
Despacito - Remix
One Kiss (with Dua Lipa)
New Rules
Unforgettable
Perfect
Galway Girl
Better Now
Mr. Brightside
This Is Me



Most popular artists per country

Artist

Ed Sheeran
Drake
Post Malone
Ariana Grande
Calvin Harris
XXXTENTACION
Billie Eilish
Dua Lipa
George Ezra





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There is no one way to understand and predict music preferences and popularity

- However similar they are, **every individual's music taste is unique**
- **Today's popular music all about danceability and energy;** it is less about live music, acoustic tracks or use of actual instruments
- Acoustic songs, conveying positive moods or using a lot of speech seem to negatively influence song popularity while danceable songs with high energy and explicit words seem to guarantee success - Caution though! **Music is too diverse to be generalised into one statistical model**
- We must keep the following in mind
 - **Music preferences differ by genre**
 - **Lyrics and their meaning highly influence songs**
 - **Music taste and preferences evolve over time;** however, some artists and songs survive time and are still relevant today
 - Either way, **success is often short** and all artists try to survive in a highly competitive music industry
 - **Music taste and preferences differ by region;** some songs reach people worldwide while others stay local



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Everyone's music taste is unique

You can explore the data as much as you like – at the end of the day, only you know what makes you like a song!



Thank you for listening!

Explore more of your favourite music here

Time period



Location



DIY



SCAN ME



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Sources

- Spotify for Developers API & our own Spotify playlists
- Spotify Dataset 1921-2020, Audio features of 160k+ songs released in between 1921 and 2020 (<https://www.kaggle.com/yamaerenay/spotify-dataset-19212020-160k-tracks/discussion>)
- Spotify Top 200 hits per day per country (<https://spotifycharts.com/regional>)
- Song lyrics (<https://www.lyrics.com>)