TOP 100 MOST STREAMED SONGS ANALYSIS

Spotify has been around since 2008 and has certainly revolutionized the way we enjoy music. Nowadays it is the largest streaming music platform in the world and for several years even the plays obtained on Spotify have been contributing to the FIMI recognition of gold and platinum discs.

INTRODUCTION

The dataset taken into consideration analyzes the main features of the 100 most listened songs ever on the Spotify platform.
The data used in this research were extracted using 'Organize your music', which allows you to assign numerical values to some traits of a song, such as the level of noise, acoustics or the energy conveyed by a song.

http://organizeyourmusic.playlistmachinery.com

GOALS

Music is changing over time. Through this research, in addition to analyzing the songs in the charts, we want to study this change, trying to detect any correlations among the common traits of the different songs.
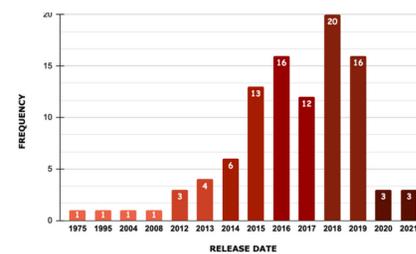
HOW IS THE DATASET MADE?

Within our dataset, the 100 most played songs of all time on Spotify have been organized by certain features, including:

- Title
- Artist
- Genre
- Year of release
- Speed
- Energy
- Danceability
- Loudness
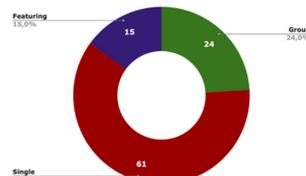- Happiness
- Length
- Single, grop or featuring

WHEN DID THE MOST PLAYED SONGS OF ALL TIME COME OUT?

There are 4 songs in the chart that were released before 2010.
More than 75% of the songs on the charts were released from 2015 to 2019.
2018 is the year with the majority of top 100 songs.

SINGLE, MUSICAL GROUP OR FEATURING?

The analysis shows that 15 songs are featurings, 24 songs were produced by a musical group and 61 songs are singles.

Featuring 15,0%
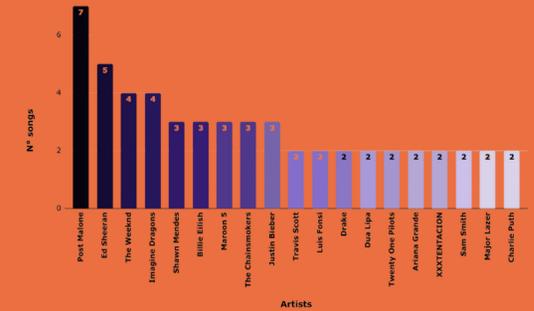Group 24,0%
Single 61,0%
15
24
61

MUSICAL GENRES

The most popular musical genres that appear in the Spotify top 100 are:
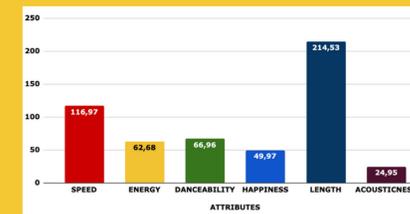
- Dance pop (29)
- Pop (11)
- Country rap (7)
- Canadian pop (6)
- Modern rock (6)

WHO ARE THE TOP ARTISTS IN THE CHARTS?

There are 64 different artists in the top 100, among them 45 have only one song.
Post Malone and Ed Sheeran are the artists with the most songs in the charts.

7
5

AVERAGE VALUES OF SOME ATTRIBUTES

SPEED	ENERGY	DANCEABILITY	HAPPINESS	LENGTH	ACOUSTICNESS
116,97	62,68	66,96	49,97	214,53	24,95

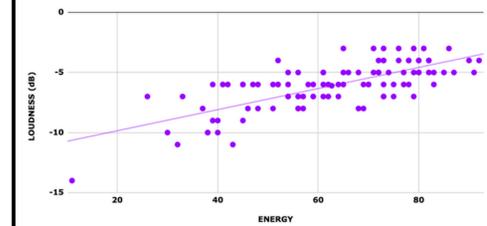## CORRELATION BETWEEN SOME ATTRIBUTES

If we think how the attributes can be related to each other, the first thing we would expect to find out is a positive correlation between the loudness and energy of a song, or a negative correlation between the energy of a song and its acoustics.

We can see that by drawing some graphs and the result is exactly the expected one.
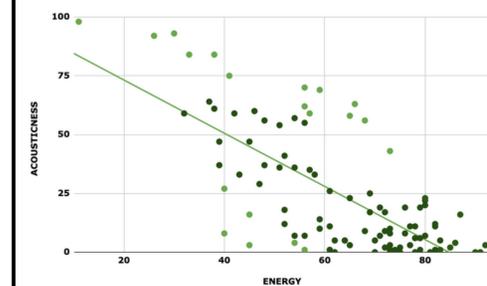
By creating the correlation matrix of all the attributes we also notice:
- a positive correlation between the level of danceability and the happiness that a song conveys
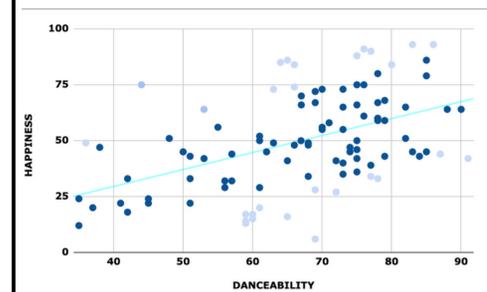- a negative correlation between the year of release and the length of a song

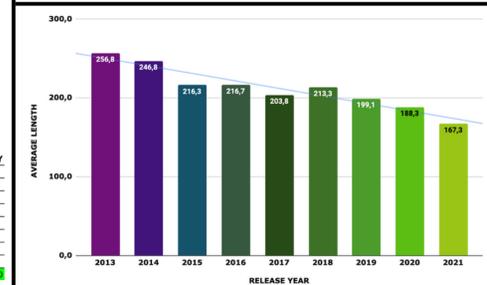|	RELEASE YEAR	SPEED	ENERGY	DANCEABILITY	LOUDNESS	HAPPINESS	LENGTH	ACOUSTICNESS	POPULARITY
RELEASE YEAR	1,00								
SPEED	0,01	1,00							
ENERGY	-0,01	0,32	1,00						
DANCEABILITY	0,39	0,10	0,04	1,00					
LOUDNESS	0,09	0,18	0,73	0,11	1,00				
HAPPINESS	0,18	0,07	0,29	0,48	0,25	1,00			
LENGTH	-0,51	0,12	-0,03	-0,14	0,00	-0,13	1,00		
ACOUSTICNESS	0,05	-0,30	-0,71	-0,22	-0,54	-0,18	-0,02	1,00	
POPULARITY	0,05	-0,01	-0,25	-0,06	-0,07	-0,08	-0,01	0,22	1,00

CORRELATION COEFFICIENT EQUAL TO: +0.73

CORRELATION COEFFICIENT EQUAL TO: -0.71

CORRELATION COEFFICIENT EQUAL TO: +0.73

CORRELATION COEFFICIENT EQUAL TO: -0.51

CONCLUSIONS

As we can see, the average length of a song is decreasing: this is certainly linked to the birth of platforms such as Spotify, which monetize the artists for every stream of their song. Thus, for an artist it is more convenient to produce 5 x 3 minute songs rather than 3 x 5 minute songs.
We were able to verify the expected correlation between some attributes and discover others via the correlation matrix.

Music has changed over the years, nowadays there are hundreds of different musical genres and advanced technologies to produce it, how many genres will arise, and specifically what features will the songs of the future develop to enter in this ranking?