

Global Music Trends Spotify Data

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Our Project



Spotify®



Research Question

What are the **characteristics** of top songs across the world and how do **external factors**, such as global economic differences, influence diverse music tastes?



Our Data Sources



Spotify Data

Two data sets containing top songs from May 2020 and June 2019 by Country, and also contain characteristic levels for each song.

World Geo Data

Contains ISO tags and geometric qualities for mapping. Will be joined with the Spotify and GDP data to create maps.

2019 GDP Data

Contains GDP values per various countries in 2019. Will utilize to analyze the correlation between economic standing and music taste.

Our Process

O1

O2

O3

Preliminary Exploration

Getting a deeper understanding of the data sets.
Subsetting and renaming columns.

Joining Data

Joining the world data set with the Spotify and GDP data.

Analysis & Visualizations

Creating charts and visualizations to analyze music and economic trends.

Preliminary Exploration

- For each data set:
 - .shape
 - .info()
 - .head()
- Subsetting
- Renaming Columns

June 2019

May 2020

Subsetted Spotify Data

	Country	Continent	Rank	Title	danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liveness	valence	genre	
81	Argentina	South America	9	Tattoo	0.566	0.766	2	-5.036	1	0.0399	0.43100	0.000000	0.1010	0.547	RnB	
82	Argentina	South America	9	Tattoo	0.566	0.766	2	-5.036	1	0.0399	0.43100	0.000000	0.1010	0.547	RnB	
83	Argentina	South America	11	Tusa	0.803	0.715	2	-3.280	1	0.2980	0.29500	0.000134	0.0574	0.574	Pop	
84	Argentina	South America	19	Blinding Lights	0.518	0.727	1	-5.947	1	0.0557	0.00153	0.000152	0.0882	0.342	RnB	
85	Argentina	South America	19	Blinding Lights	0.513	0.796	1	-4.075	1	0.0629	0.00147	0.000209	0.0938	0.345	Pop	
86	Argentina	South America	21	Dance Monkey	0.825	0.593	6	-6.401	0	0.0988	0.68800	0.000161	0.1700	0.540	Pop	
	Date	Position	Country	Title	danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liveness	valence	tempo	genre
0	2019-06-07	1	Sweden	Heaven	0.748	0.258	7	-7.667	1	0.0664	0.188	0.00	0.0905	0.138	138.193	Underground Rap
1	2019-06-07	1	Sweden	Heaven	0.519	0.955	1	-5.746	1	0.4360	0.249	0.00	0.1300	0.625	164.480	RnB
2	2019-06-08	1	Australia	bad guy	0.701	0.425	7	-10.965	1	0.3750	0.328	0.13	0.1000	0.562	135.128	Pop
3	2019-06-02	1	Latvia	bad guy	0.701	0.425	7	-10.965	1	0.3750	0.328	0.13	0.1000	0.562	135.128	Pop
4	2019-06-04	1	Estonia	bad guy	0.701	0.425	7	-10.965	1	0.3750	0.328	0.13	0.1000	0.562	135.128	Pop
5	2019-06-18	1	Iceland	bad guy	0.701	0.425	7	-10.965	1	0.3750	0.328	0.13	0.1000	0.562	135.128	Pop

Subsetted + Renamed Data

FID		Country	ISO	COUNTRYAFF	AFF_ISO	geometry
0	1	American Samoa	AS	United States	US	POLYGON ((-170.74390 -14.37555, -170.74942 -14...
1	2	United States Minor Outlying Islands	UM	United States	US	MULTIPOLYGON (((-160.02114 -0.39805, -160.0281...
2	3	Cook Islands	CK	New Zealand	NZ	MULTIPOLYGON (((-159.74698 -21.25667, -159.793...
3	4	French Polynesia	PF	France	FR	MULTIPOLYGON (((-149.17920 -17.87084, -149.258...
4	5	Niue	NU	New Zealand	NZ	POLYGON ((-169.89389 -19.14556, -169.93088 -19...
5	6	Pitcairn	PN	United Kingdom	GB	MULTIPOLYGON (((-128.33222 -24.32726, -128.326...

	Country	Country Code	GDP
0	Aruba	ABW	NaN
1	Afghanistan	AFG	1.929110e+10
2	Angola	AGO	8.881570e+10
3	Albania	ALB	1.527918e+10
4	Andorra	AND	3.154058e+09
5	Arab World	ARB	2.817410e+12

Joining Data

- Spotify + World
- GDP + World

Joined Spotify Data Sets

May + World Data June + World Data

	FID	ISO	COUNTRYAFF	AFF_ISO	geometry	Continent	Rank	Title	danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liveness	valence	genre
Country																			
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...))	South America	9.0	Tattoo	0.566	0.766	2.0	-5.036	1.0	0.0399	0.43100	0.000000	0.1010	0.547	RnB
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...))	South America	9.0	Tattoo	0.566	0.766	2.0	-5.036	1.0	0.0399	0.43100	0.000000	0.1010	0.547	RnB
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...))	South America	11.0	Tusa	0.803	0.715	2.0	-3.280	1.0	0.2980	0.29500	0.000134	0.0574	0.574	Pop
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...))	South America	19.0	Blinding Lights	0.518	0.727	1.0	-5.947	1.0	0.0557	0.00153	0.000152	0.0882	0.342	RnB
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...))	South America	19.0	Blinding Lights	0.513	0.796	1.0	-4.075	1.0	0.0629	0.00147	0.000209	0.0938	0.345	Pop

	FID	ISO	COUNTRYAFF	AFF_ISO	geometry	Date	Position	Title	danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liveness	valence	tempo	genre
Country																				
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...)))	2019-06-17	100.0	Bohemian Rhapsody - Remastered 2011	0.414	0.404	0.0	-9.928	0.0	0.049	0.2710	0.000000	0.300	0.224	142.210	Emo
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...)))	2019-06-13	107.0	Bohemian Rhapsody - Remastered 2011	0.414	0.404	0.0	-9.928	0.0	0.049	0.2710	0.000000	0.300	0.224	142.210	Emo
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...)))	2019-06-03	105.0	Old Town Road	0.907	0.530	1.0	-6.112	1.0	0.127	0.0578	0.000002	0.101	0.507	135.998	Emo
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...)))	2019-06-03	105.0	Old Town Road	0.907	0.530	1.0	-6.112	1.0	0.127	0.0578	0.000002	0.101	0.507	135.998	Hiphop
Argentina	15	AR	Argentina	AR	MULTIPOLYGON (((-71.85916 -41.01128, -71.83806...)))	2019-06-20	111.0	Bohemian Rhapsody - Remastered 2011	0.414	0.404	0.0	-9.928	0.0	0.049	0.2710	0.000000	0.300	0.224	142.210	Emo

Joined GDP Data Set

GDP + World Data

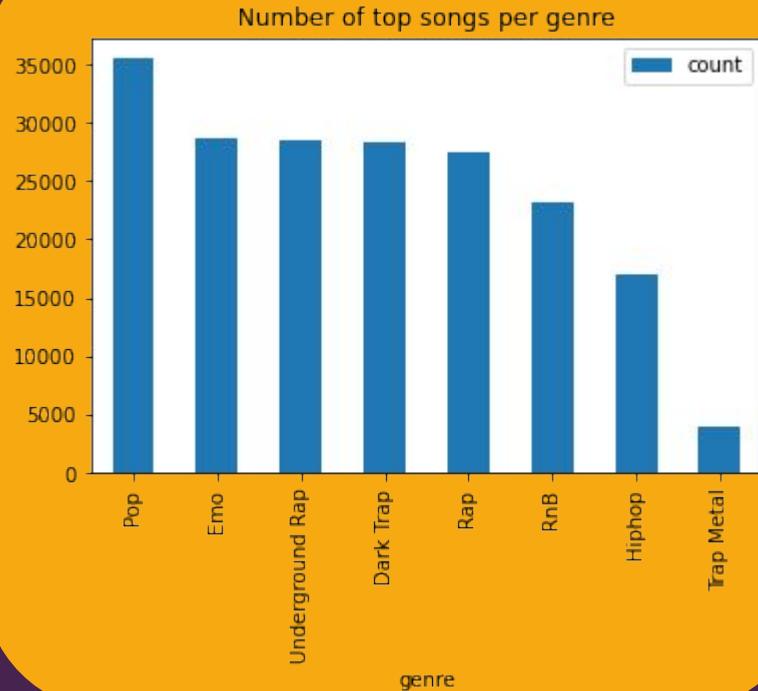
	FID	ISO	COUNTRYAFF	AFF_ISO		geometry	Country Code	GDP
Country								
Samoa	7	WS	Samoa	WS	MULTIPOLYGON (((-172.59650 -13.50911, -172.551...		WSM	8.522502e+08
Tonga	9	TO	Tonga	TO	MULTIPOLYGON (((-175.14529 -21.26806, -175.186...		TON	5.123501e+08
El Salvador	11	SV	El Salvador	SV	POLYGON ((-87.69467 13.81901, -87.72501 13.733...		SLV	2.702264e+10
Guatemala	12	GT	Guatemala	GT	POLYGON ((-89.34831 14.43198, -89.43556 14.414...		GTM	7.671036e+10
Mexico	13	MX	Mexico	MX	MULTIPOLYGON (((-111.56001 24.42945, -111.5761...		MEX	1.268870e+12

Charts

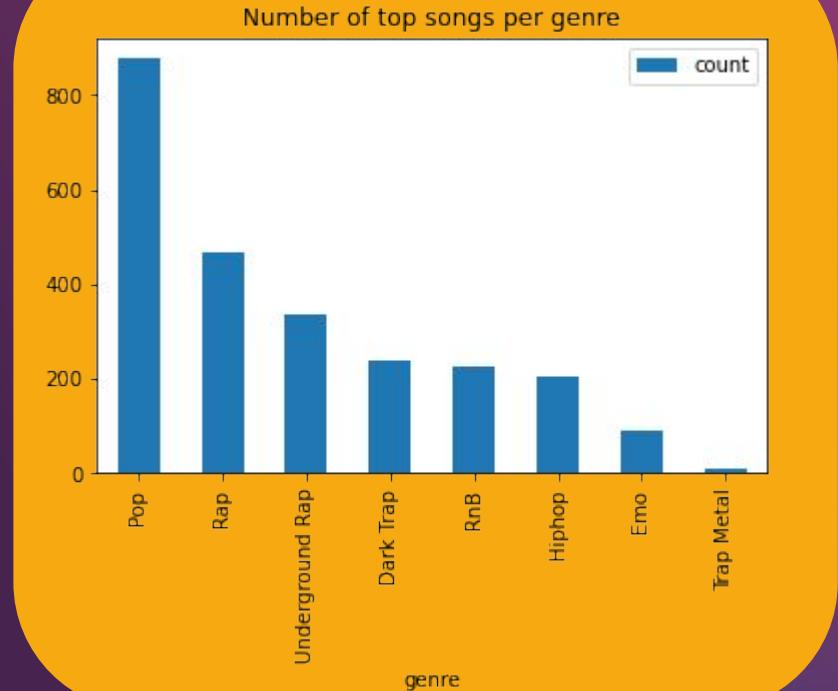
- Genre Exploration
- Song Characteristics: Acousticness

Global Genres

June 2019



May 2020

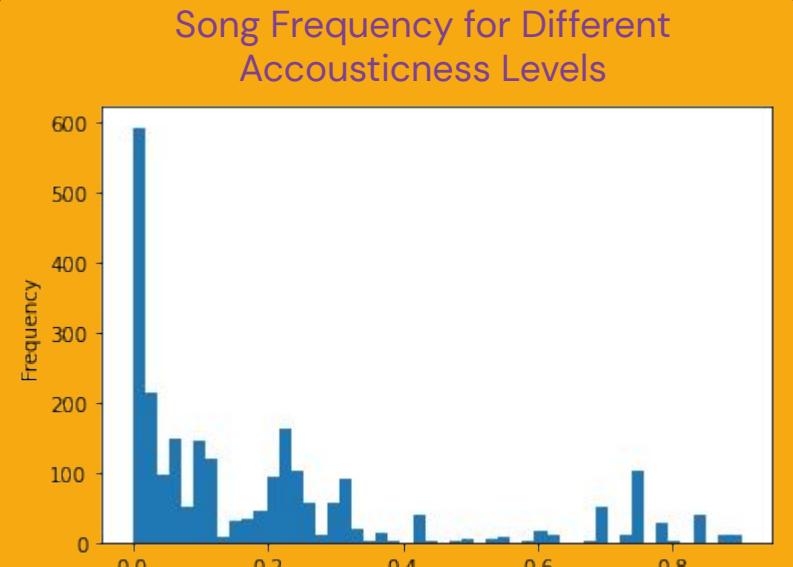


Looking at Accousticness (Globally)

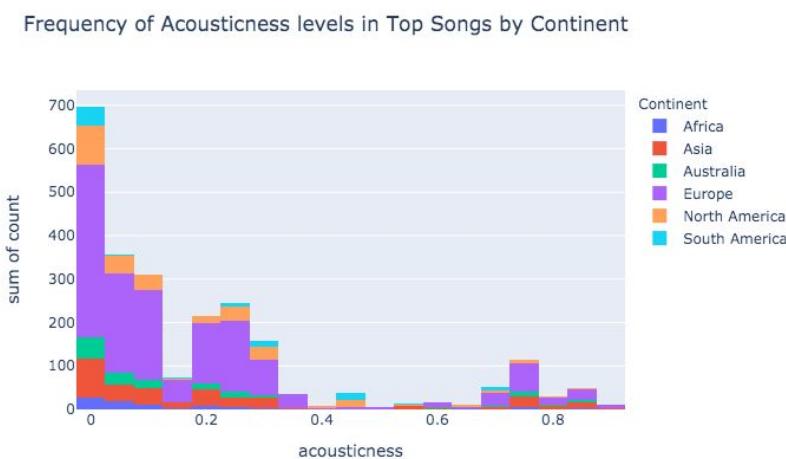
June 2019



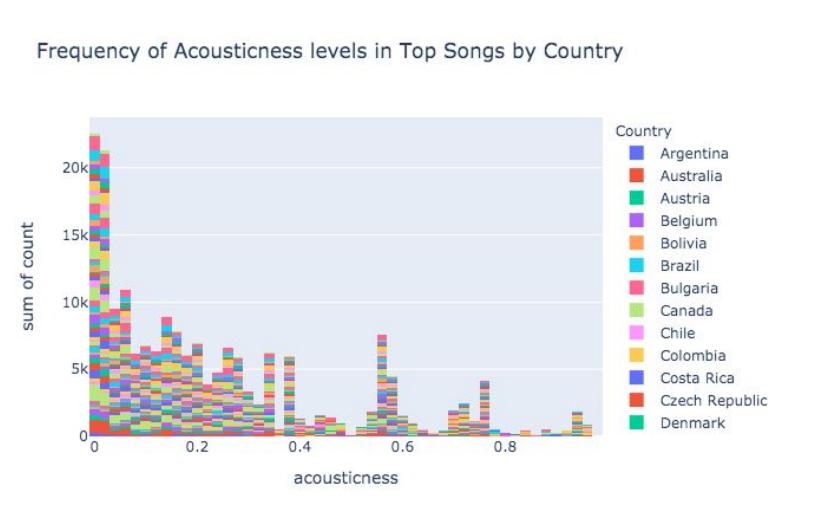
May 2020



Looking at Acoustics (May 2020 - By Continent)



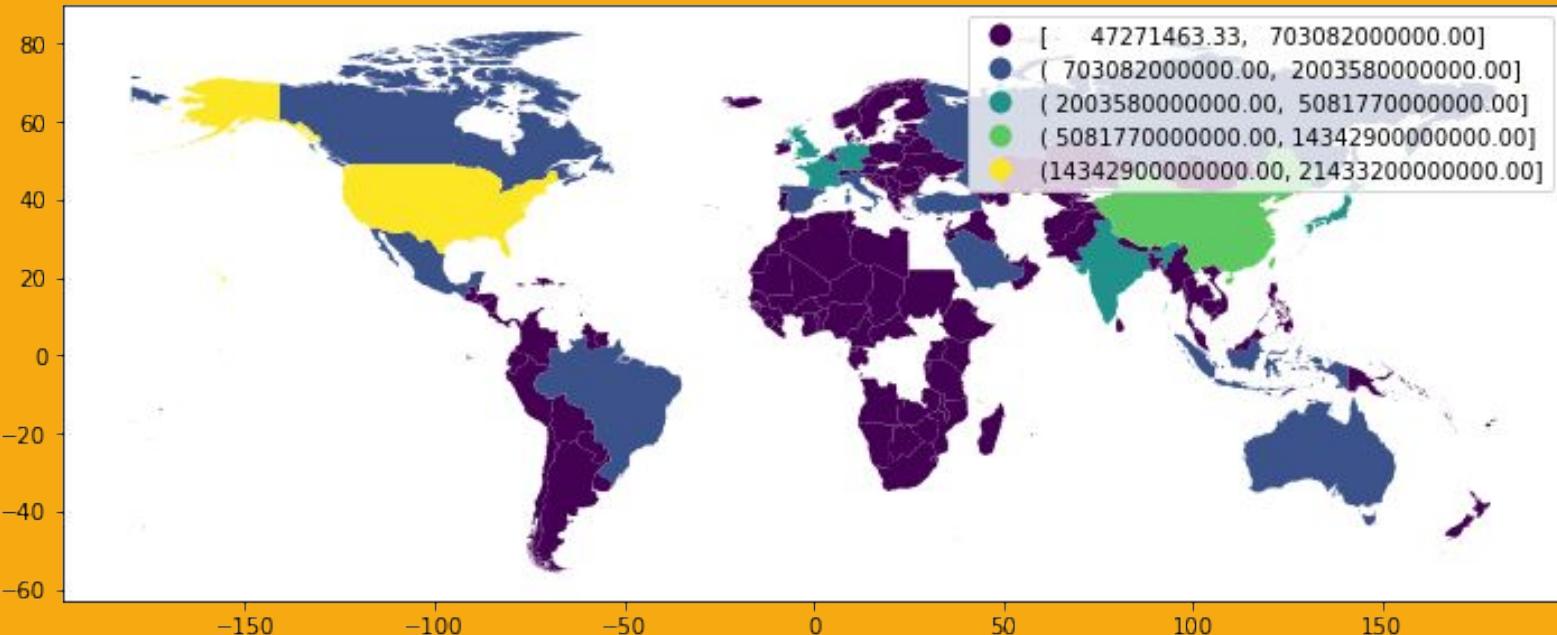
Looking at Acousticness (June 2019 - By Country)



Maps

- GDP
- Song Characteristics

Mapping out GDP



Interactive GDP Bubble Map

GDP per Country



Joining Data

- Spotify + World
- GDP + World

Song Characteristics



Danceability

How suitable a track is for dancing



Loudness

How loud the songs is



Acousticness

Measurement of how natural & acoustic a song is



Liveness

Probability that the song was recorded with a live audience.



Energy

Perceptual measure of intensity and activity



Speechiness

Detects the presence of spoken words in a track



Instrumentalness

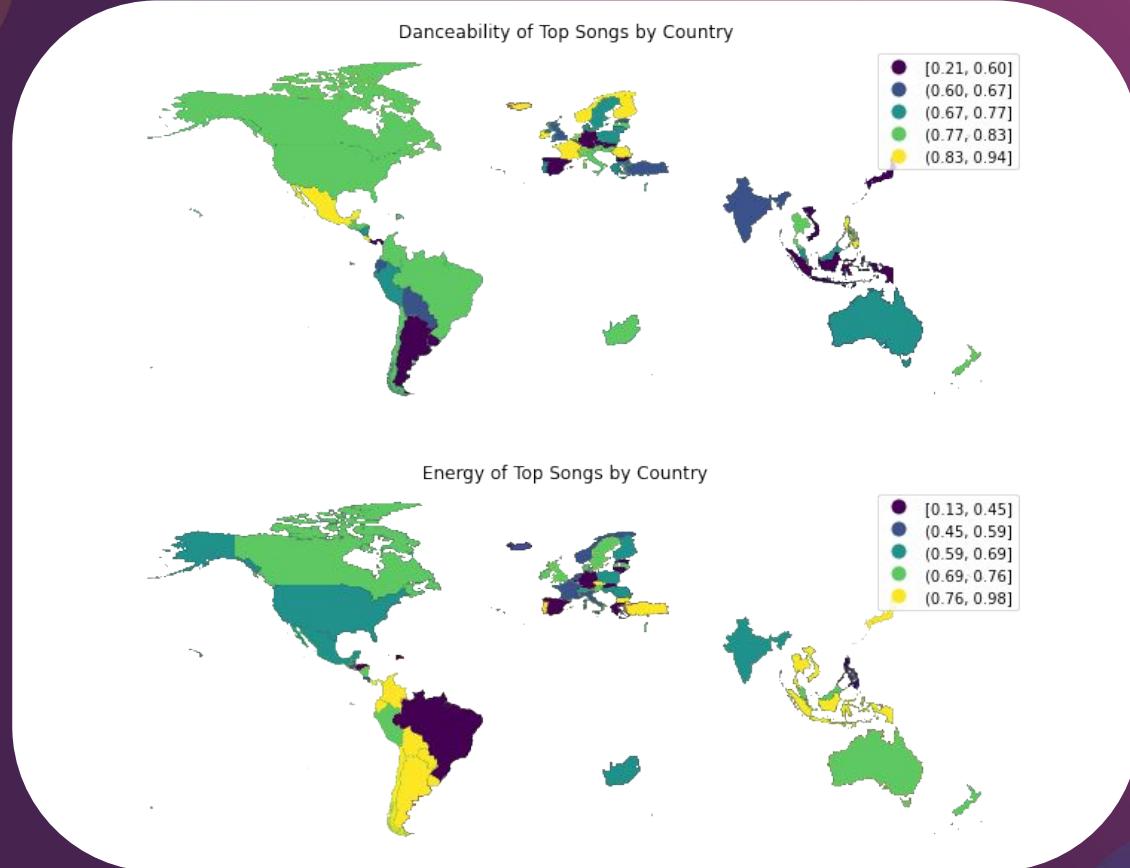
The amount of vocals in the song



Valence

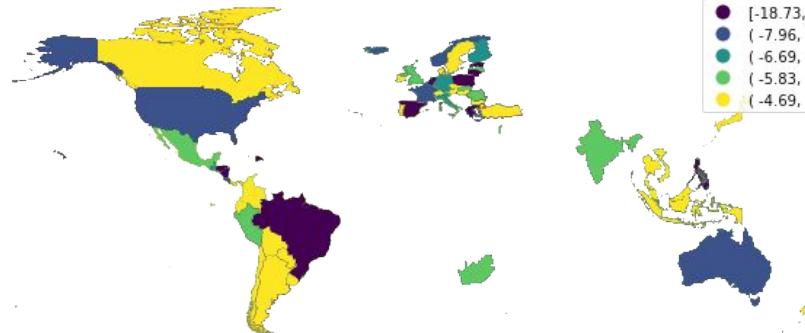
The musical positiveness conveyed

Song Characteristics (Danceability & Energy)

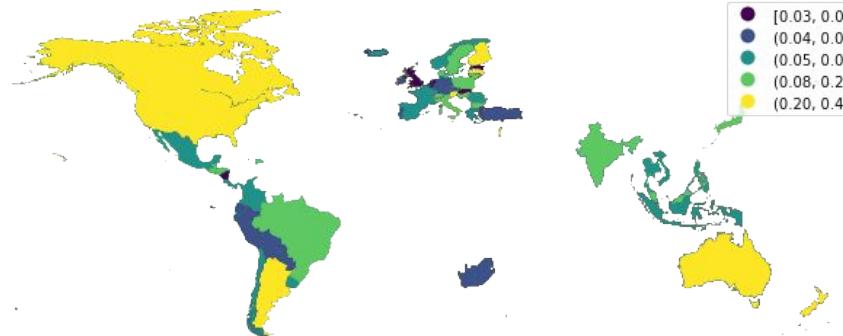


Song Characteristics (Loudest & Speechiest)

Loudest of Top Songs by Country

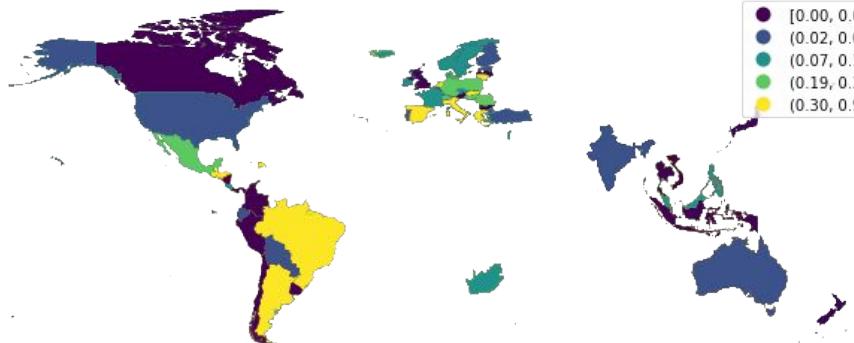


Speechiest of Top Songs by Country

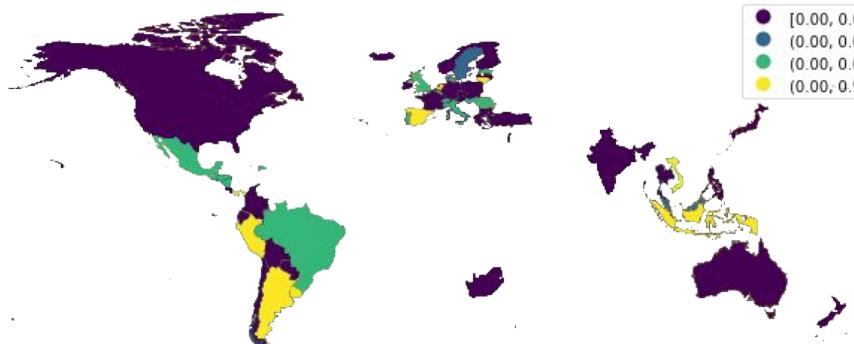


Song Characteristics (Acousticness & Instrumentalness)

Acousticness of Top Songs by Country

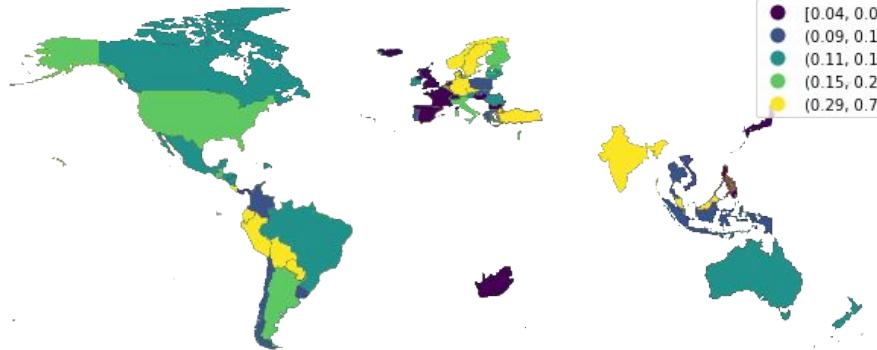


Instrumentalness of Top Songs by Country

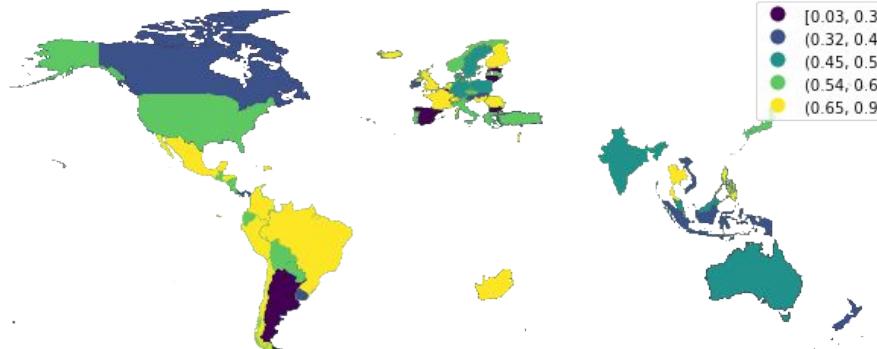


Song Characteristics (Liveness & Valence)

Liveness of Top Songs by Country



Valence of Top Songs by Country



Future Research



- Direct connection between Spotify song characteristics and GDP
- Additional global factors
 - Twitter data
 - Political
 - Educational
 - Language
- Helping artists and improve Spotify user experience

Thank You!





01

Business Overview

Problem

Mercury is the
closest planet
to the Sun

Solution

Venus is the
second planet
from the Sun

Competitors



Mercury

Mercury is the smallest planet



Jupiter

Jupiter is the biggest planet



Neptune

Neptune is the farthest planet



Mars

Mars is actually a cold place



Venus

Venus is the second planet



Saturn

Saturn is the ringed one





The background features a dark purple gradient with abstract wavy shapes in shades of blue, green, and orange. Scattered throughout are several yellow musical notes of different types (quarter notes, eighth notes, etc.) and sizes.

Them

Saturn is the
ringed one and
a gas giant

Us

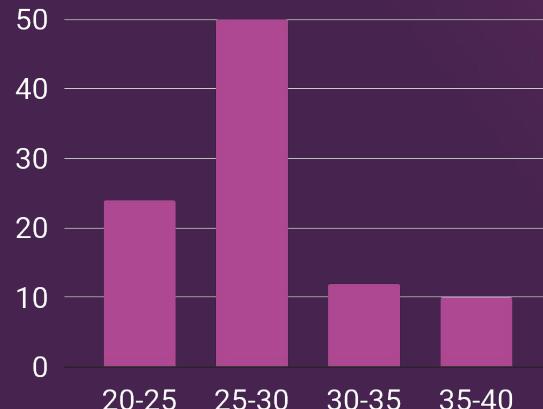
Neptune is the
farthest planet
from the Sun

02

Market Analysis and Competition

Target

Age



Gender



Interests



To modify this graph, click on it, follow the link, change the data and paste the new graph here, replacing this one

Market Size



1005

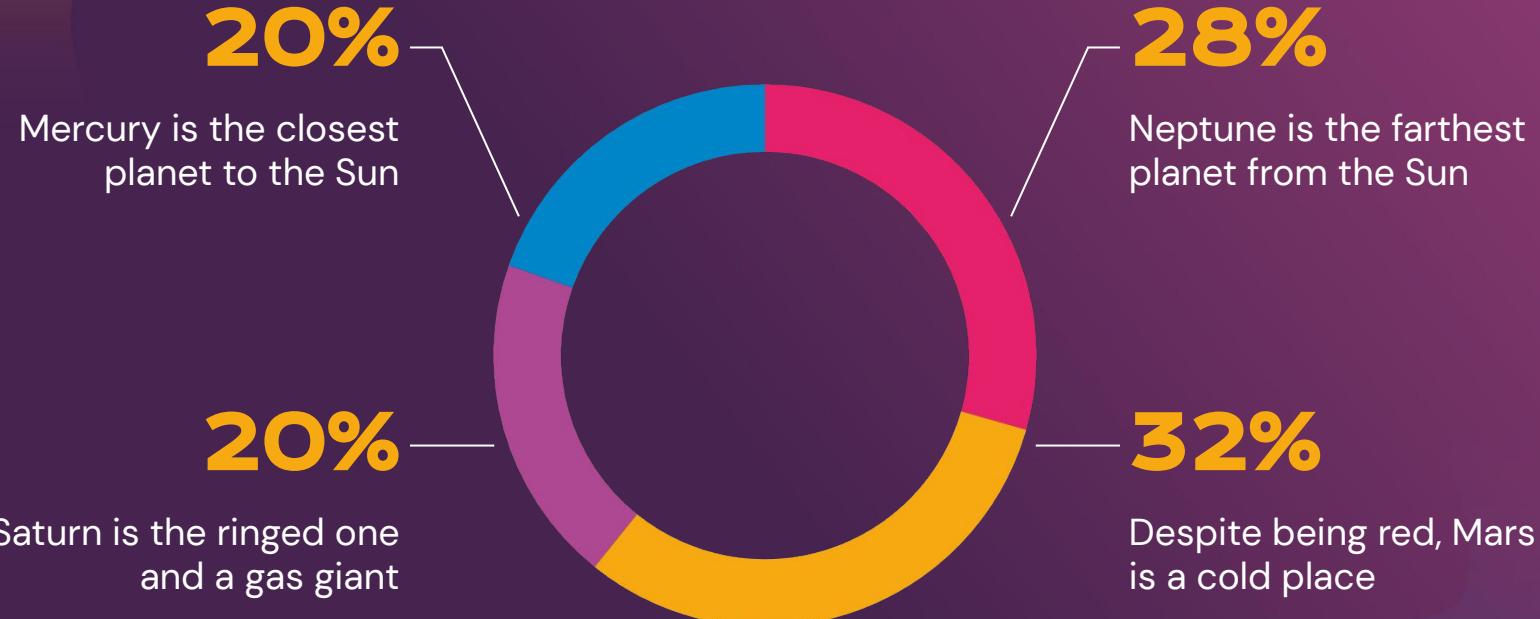
studios worldwide

- 10-20
- 21-30
- 31-50

4,498,300,000

Big numbers catch your audience's attention

Market Share



To modify this graph, click on it, follow the link, change the data and paste the new graph here

Competitor Analysis

Mercury

Neptune

Jupiter





03

Marketing Plan

Our Services

Mars

It's a cold place. The planet is full of iron oxide dust



Mercury

Mercury is the smallest one in the Solar System



Saturn

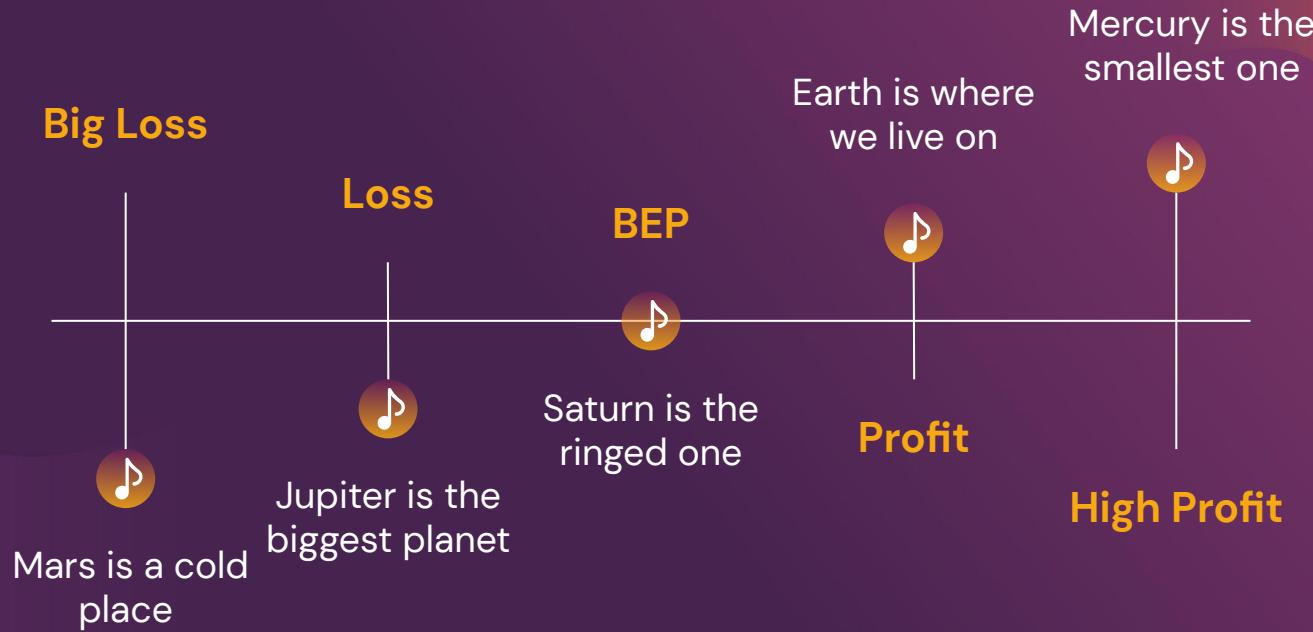
Saturn is composed mostly of hydrogen and helium



Venus

Venus is the second planet from the Sun. It's terribly hot

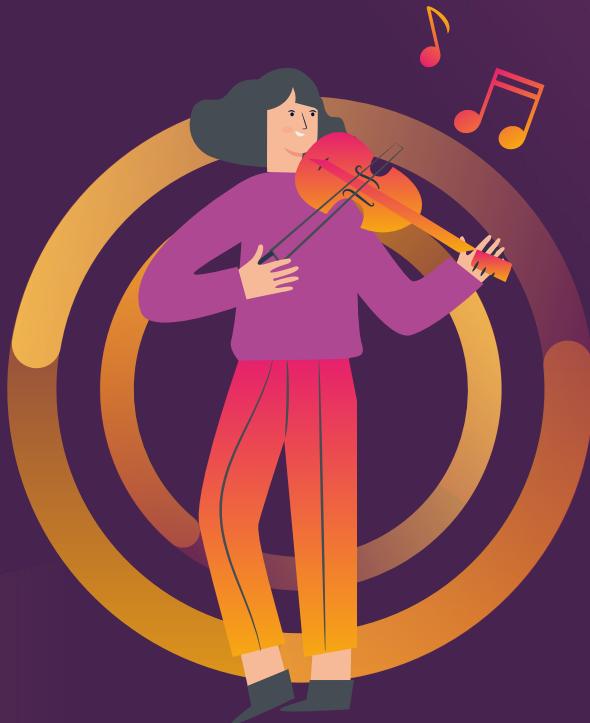
Break-Even Analysis





whoa!

This could be the part of the presentation
where you can provide an interesting piece of
trivia or tell a little joke



"This is a quote, words full of wisdom that someone important said and can make the reader get inspired."

—Someone Famous

Sales and Distribution



Channel 1

Mercury is the closest planet to the Sun



Channel 2

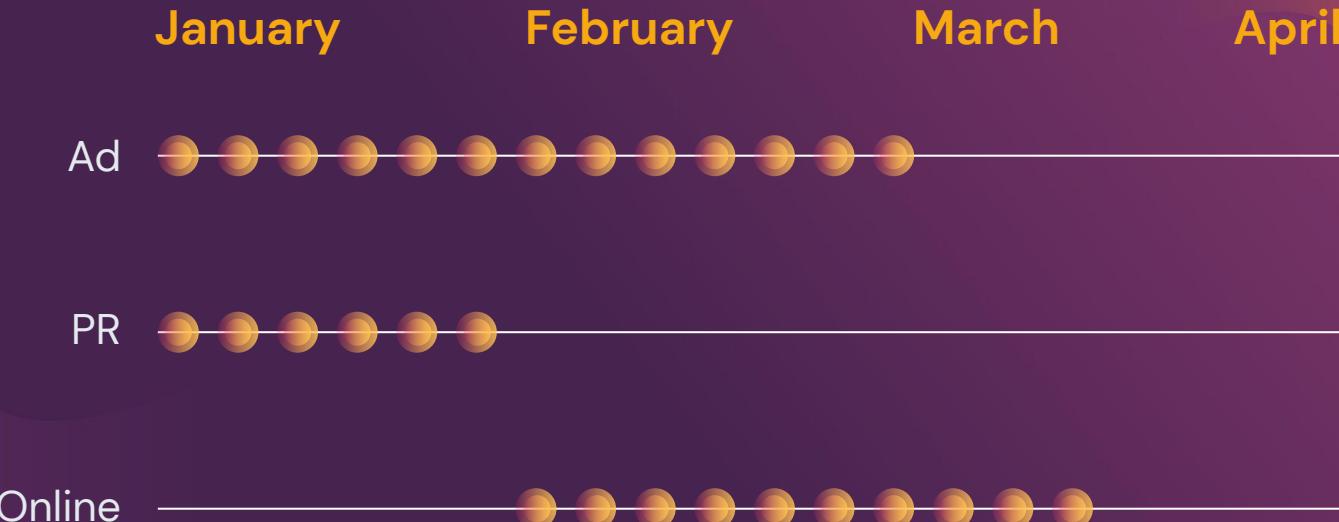
Venus is the second planet from the Sun



Channel 3

Saturn is the ringed one. It's a gas giant

Advertising and Promotion



04

Management Plan

Our Team



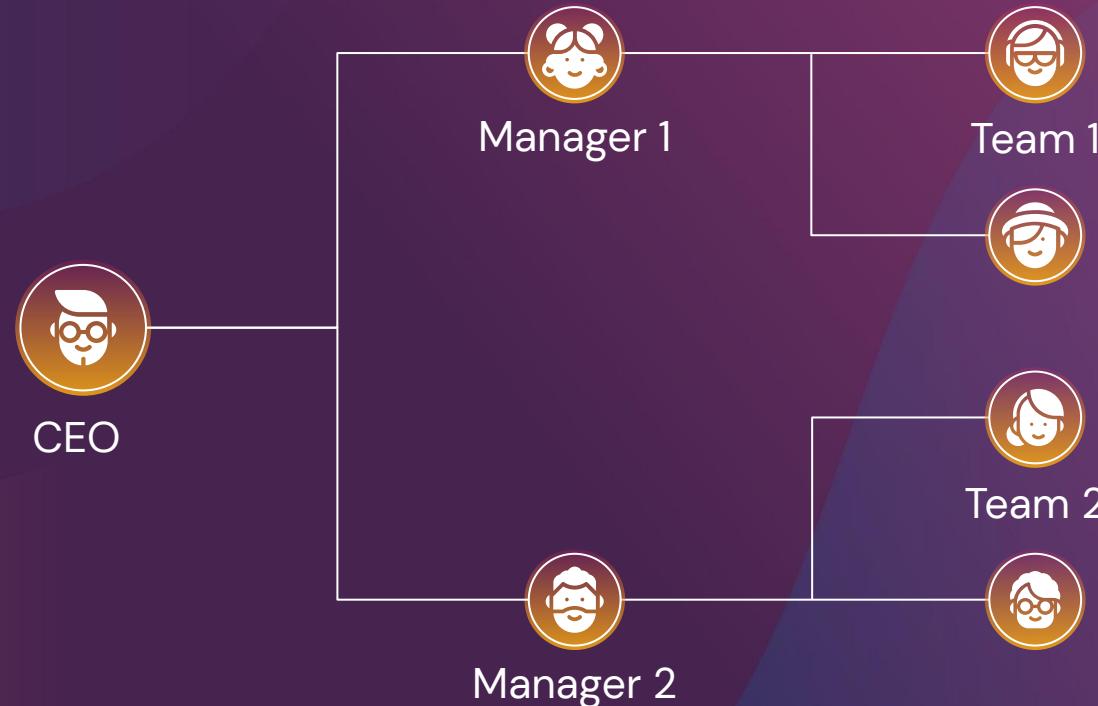
John James

Venus is the second planet from the Sun

Jane Smith

Saturn is a gas giant and has rings

Organizational Chart



Our Partners



Neptune

Neptune is the farthest planet



Mars

Mars is actually a cold place



Venus

Venus is the second planet



05

Operating Plan

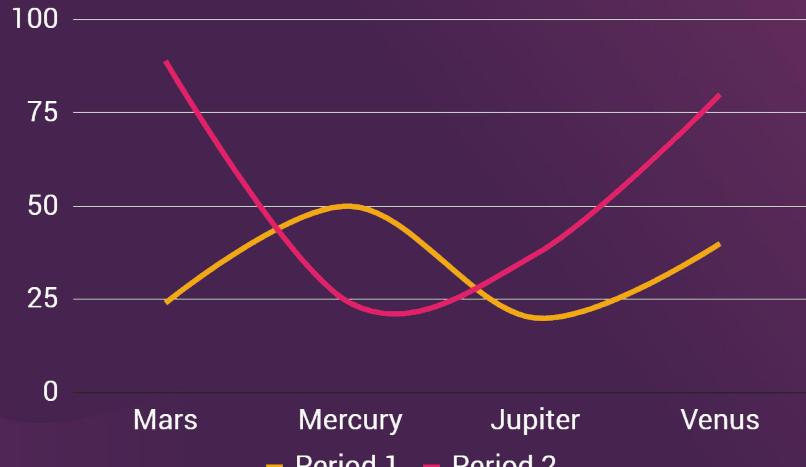


A Picture Is Worth
a Thousand Words

06

Financial Plan

Predicted Growth



3504

Neptune is the
farthest planet

5970

Mars is actually
a cold place

To modify this graph, click on it, follow the link, change
the data and paste the new graph here

Balance Sheet

Assets

What the company owns

1M

Liabilities

What the company owes

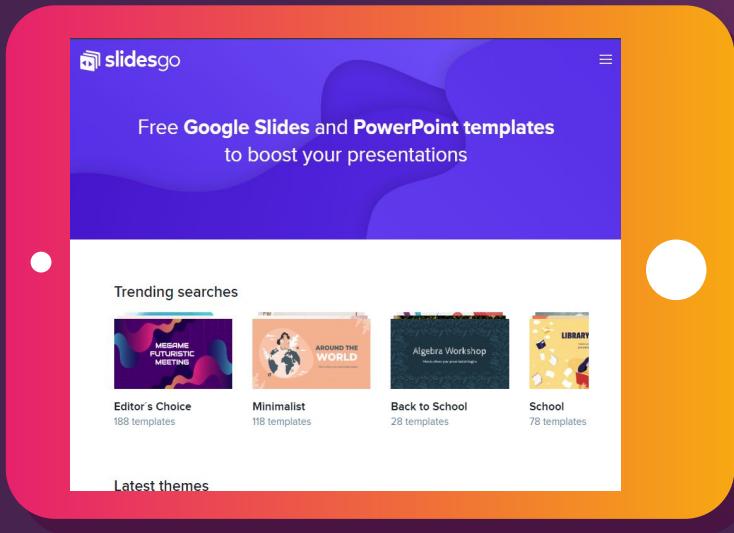
300K

Equity

The difference between assets and liabilities

700K

Sneak Peek



You can replace the image on the screen with your own work. Just delete this one, add yours and center it properly

Thanks!

Do you have any questions?

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Alternative Resources



Resources

Photos

- Headphones near record player
- Happy young ethnic woman holding vinyl plate on bright background

Vectors

- People playing music instruments
- Modern testimonial design with speech bubbles
- People dancing and playing an instrument
- Circle made of music instruments
- Music poster template
- Music poster template

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Pana



Amico



Bro



Rafiki

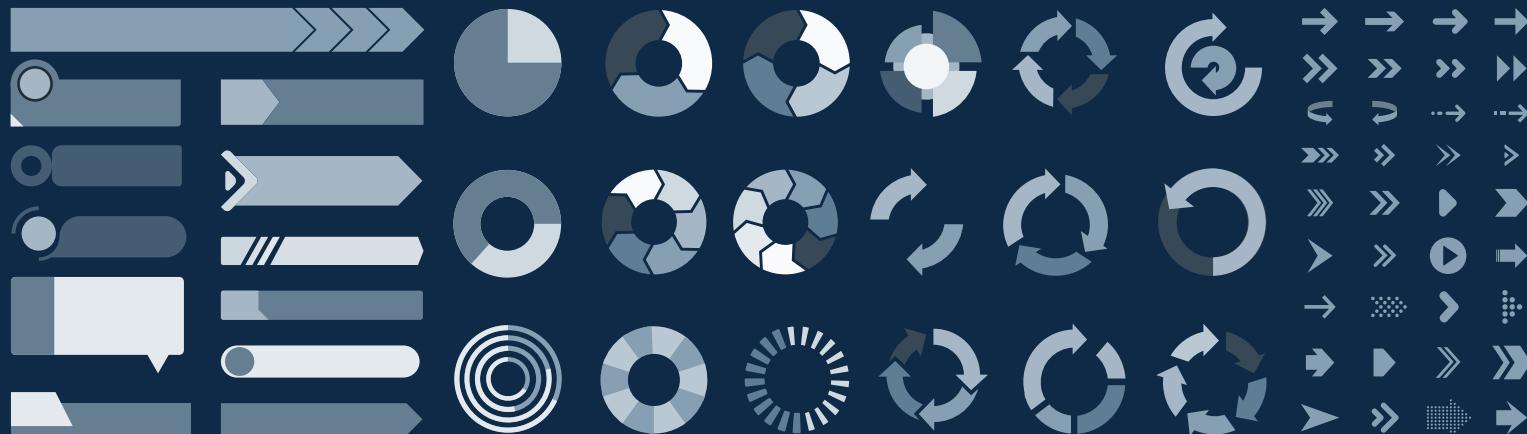


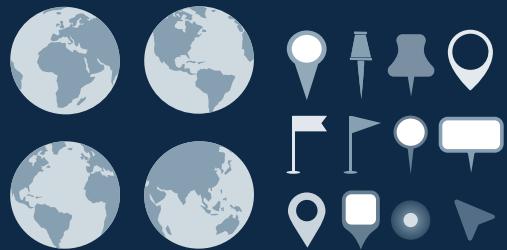
Cuate

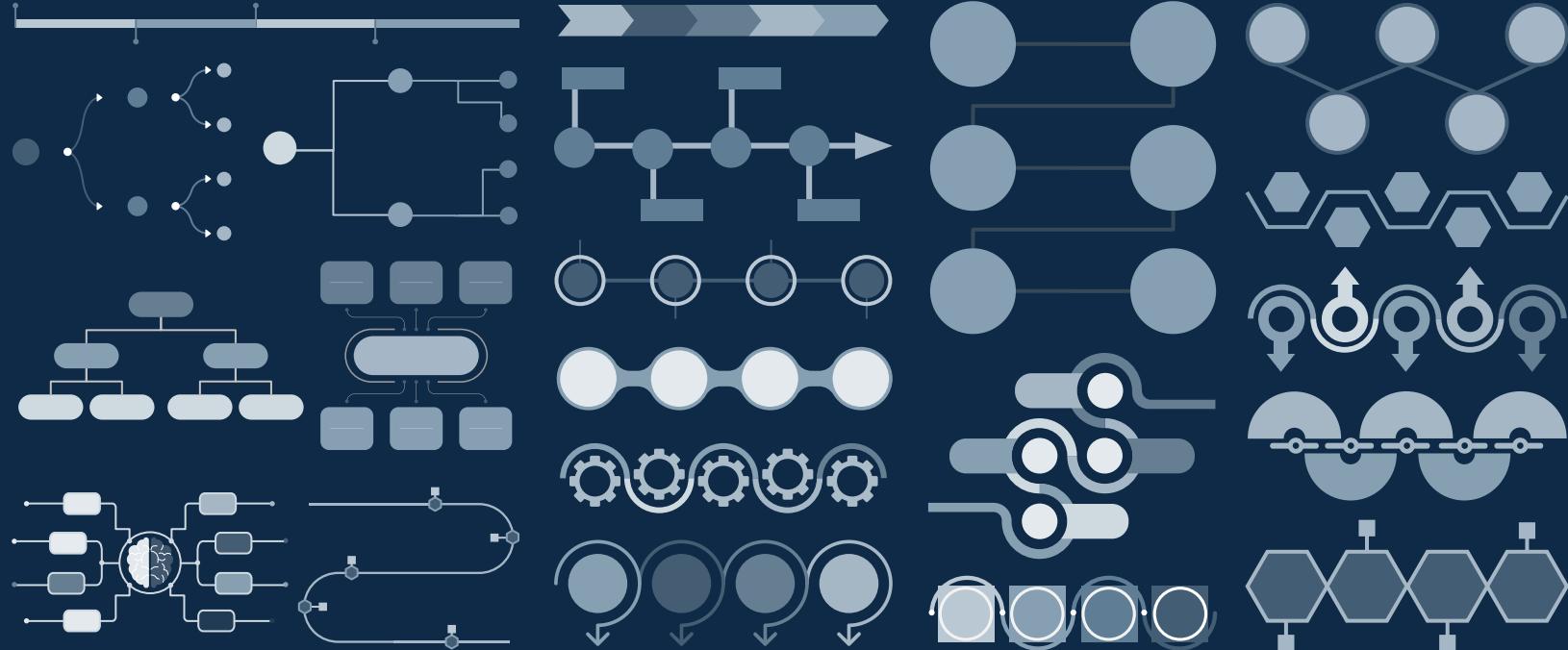
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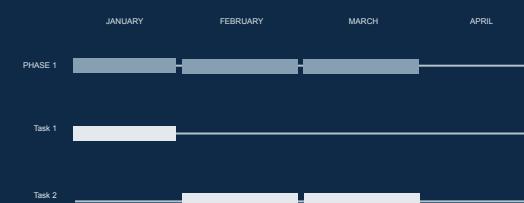
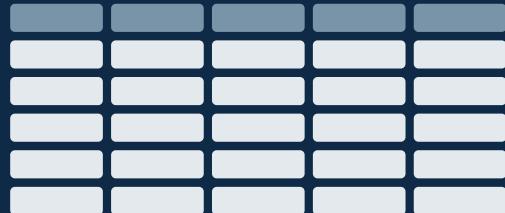
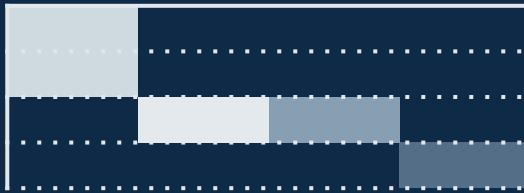
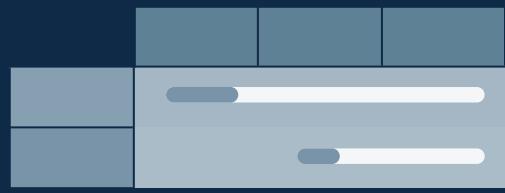
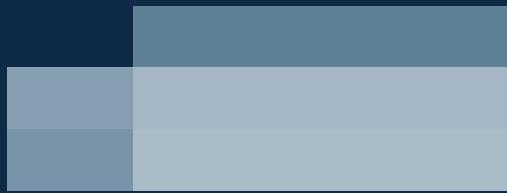
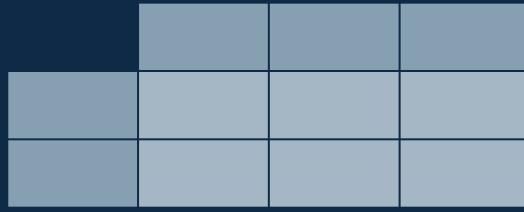
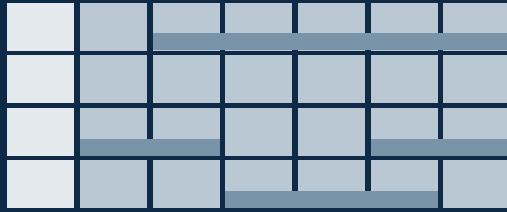
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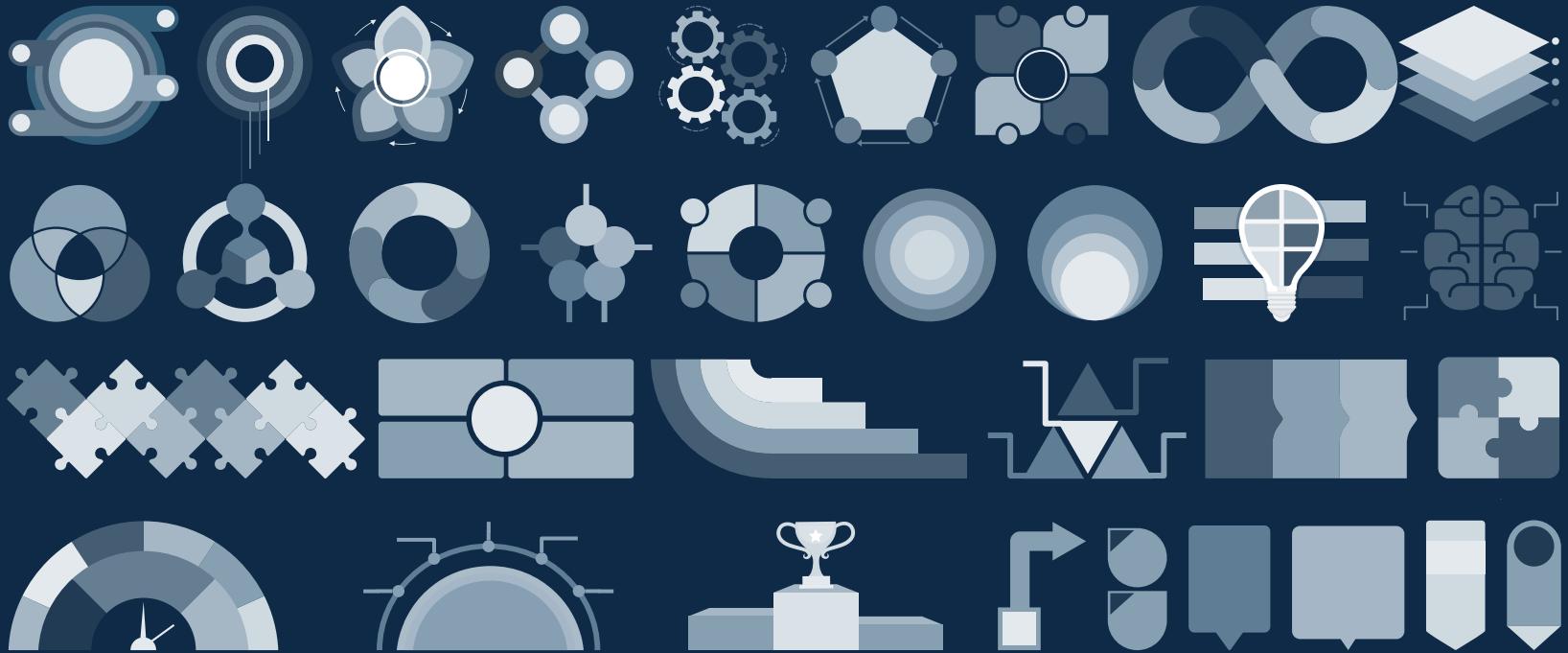
Group the resource again when you're done.

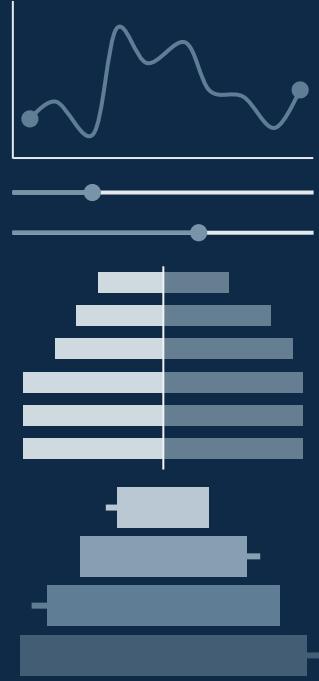
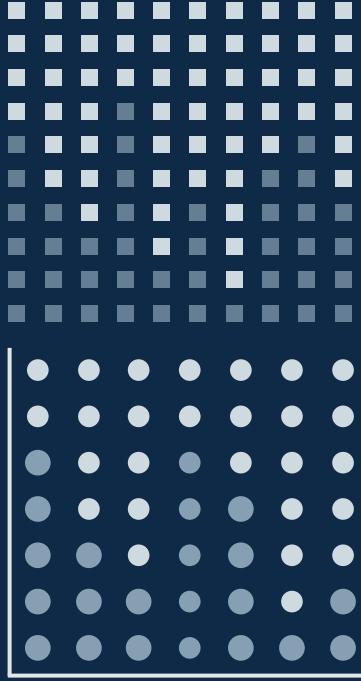












...and our sets of editable icons

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You can change the stroke and fill color; just select the icon and click on the paint bucket/pen.

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Educational Icons



Medical Icons



Business Icons



Teamwork Icons



Help & Support Icons



Avatar Icons



Creative Process Icons



Performing Arts Icons



Nature Icons



SEO & Marketing Icons



