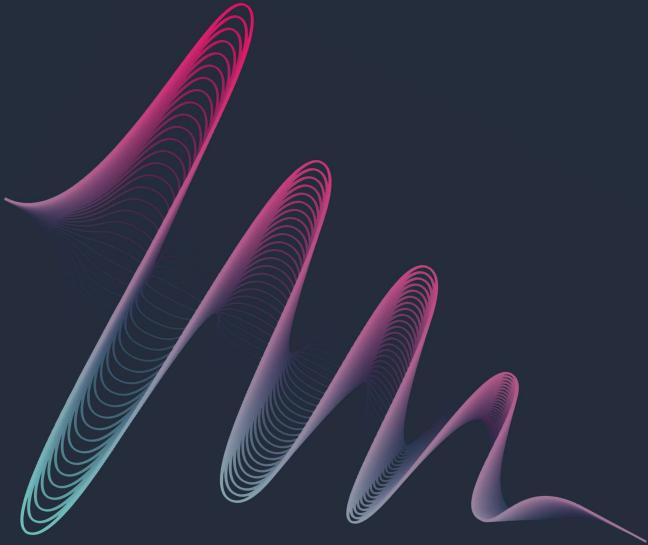
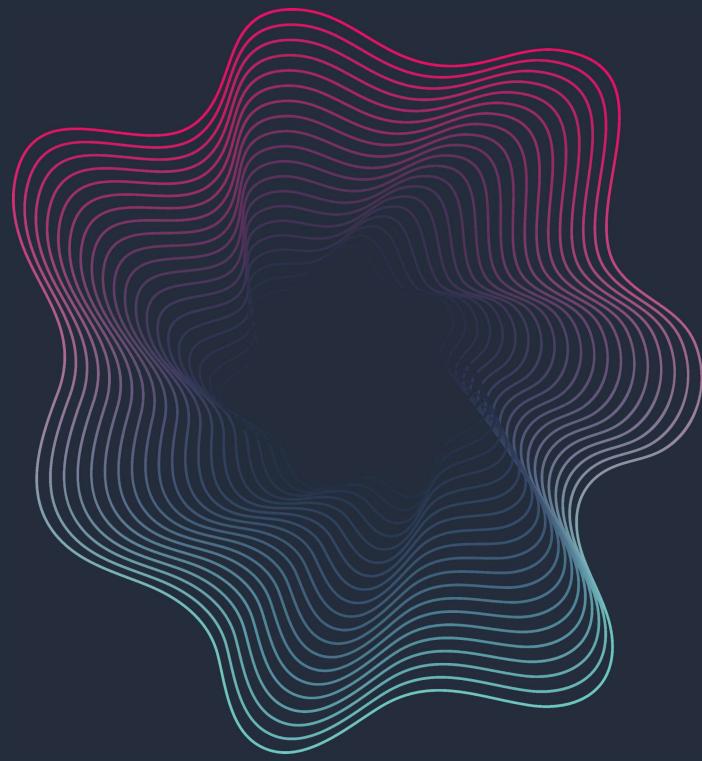


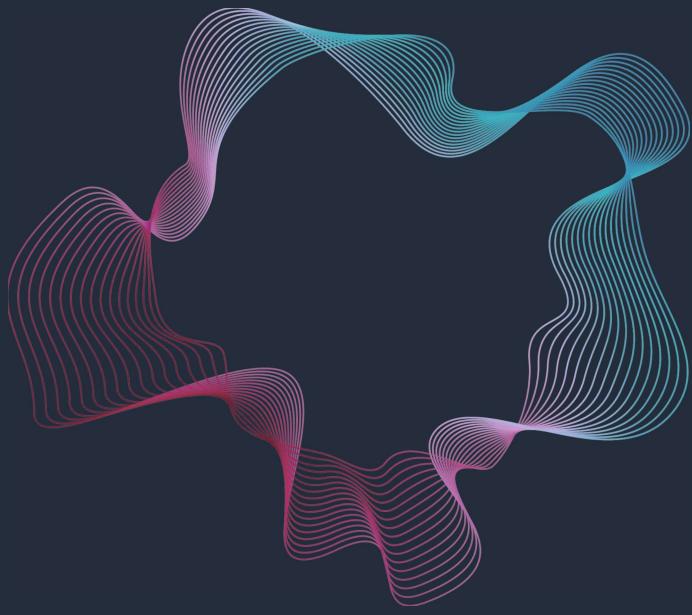
Project Eagle Eye: Decoding How We Classify Music



Executive Summary

Executive Summary Here





We want to estimate the genre of a track based on our feature data. Our data included 114 Genres in total.

Our Data Set

Size

114,000 tracks from Spotify



Columns

20 including Artist, Album, Track, Genre



Target

Identify music genre from a list of 114



Features We Used

<u>Popularity</u>	A value from 0 to 100 based mostly on an algorithm that tracks how often and recently a song is played	<u>Speechiness</u>	Value of 0 to 1 indicating how much of the song has lyrics
<u>Duration</u>	The track's length in milliseconds	<u>Acousticness</u>	Measure of 0 to 1 of how much of the music is acoustic as opposed to electronic
<u>Explicit</u>	Boolean indicating if the song has explicit lyrics	<u>Instrumentalness</u>	Measure of 0 to 1 estimating how much of the song does not use words. Human voice that doesn't involve speech are treated as instrumental
<u>Danceability</u>	Value from 0 to 1 indicating how suitable the music is for dancing	<u>Liveness</u>	Measure of 0 to 1 how likely it is that the music is performed live
<u>Energy</u>	measure from 0.0 to 1.0 and represents a perceptual measure of intensity and activity	<u>Valence</u>	A measure from 0.0 to 1.0 describing the musical positiveness conveyed by a track
<u>Loudness</u>	The overall loudness of a track in decibels	<u>Tempo</u>	The overall estimated tempo of a track in beats per minute
<u>Mode</u>	Value of 0 (minor) or 1 (major) indicating modularity	<u>Time Signature</u>	The estimated time signature. Value ranges from 3 to 7 indicating time signatures of 3/4, to 7/4

Example Music Tracks



Time period

Mars is actually a very cold place



Frequency

Venus has extremely high temperatures



Wavelength

Neptune is the farthest planet from the Sun



Velocity

Mercury is the closest planet to the Sun



Distance

Saturn is a gas giant with several rings



Jupiter is the biggest planet of them all



Jupiter is the biggest planet of them all

Data Cleanup

01

The sound

You can describe the topic
of the section here

02

The waves

You can describe the topic
of the section here

03

Characteristics

You can describe the topic
of the section here

04

Newton theory

You can describe the topic
of the section here

05

Factors

You can describe the topic
of the section here

06

Effects

You can describe the topic
of the section here

About Our Model

Type

We used the random forest model. It easily handles non-scaled numbers and classified data types



Other

Venus has a beautiful name and is the second planet from the Sun



Data Leakage

Since some genres may be determined by features that aren't subjective, there may be some leakage



Model Iterations

	Sound 1	Sound 2	Sound 3	Sound 4
Water	0.06	0.53	0.38	0.38
Air	0.11	9.4	0.53	0.78
Wood	95.2	1.16	9.4	1.16

Gained Insights

Some fun insights we gained

- The most popular genre of music
- Fun Facts
- You'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation

Sound waves: the transmission of energy



Soundwaves

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon



Energy

Venus has a beautiful name and is the second planet from the Sun. It's hot and has a poisonous atmosphere

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

—**Someone Famous**

A picture always reinforces the concept

Images reveal large amounts of data, so remember: use an image instead of a long text. Your audience will appreciate it



Computer mockup

You can replace the image on the screen with your own work. Just right-click on it and select “Replace image”



What are sound waves?

Mercury is the closest planet to the Sun and the smallest one in the entire Solar System. Contrary to popular belief, this planet's name has nothing to do with the liquid metal. Mercury was, instead, named after the famous Roman messenger god Mercurius

Mercury takes a little more than 58 days to complete its rotation, so try to imagine how long days must be there! Since the temperatures are so extreme, albeit not as extreme as on Venus, Mercury has been deemed to be non-habitable for humans

Different waves according to material

Water

Mars is actually a very cold place



Steel

Venus has extremely high temperatures



Wood

Jupiter is the biggest planet of them all



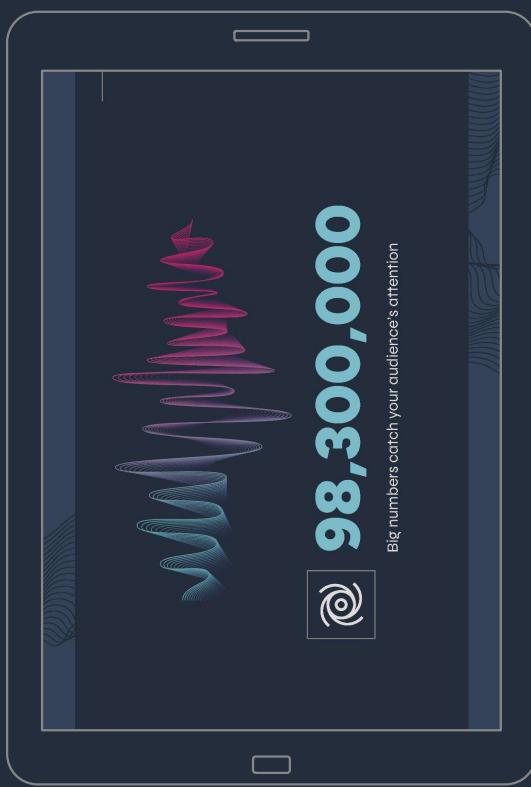
Air

Saturn is a gas giant and has several rings



Tablet mockup

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Phone mockup

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Thanks!

Do you have any questions?

youremail@freepik.com

+34 654 321 432

yourwebsite.com



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What sound waves can be affected by



Wind

Venus is the second planet from the Sun



Temperature

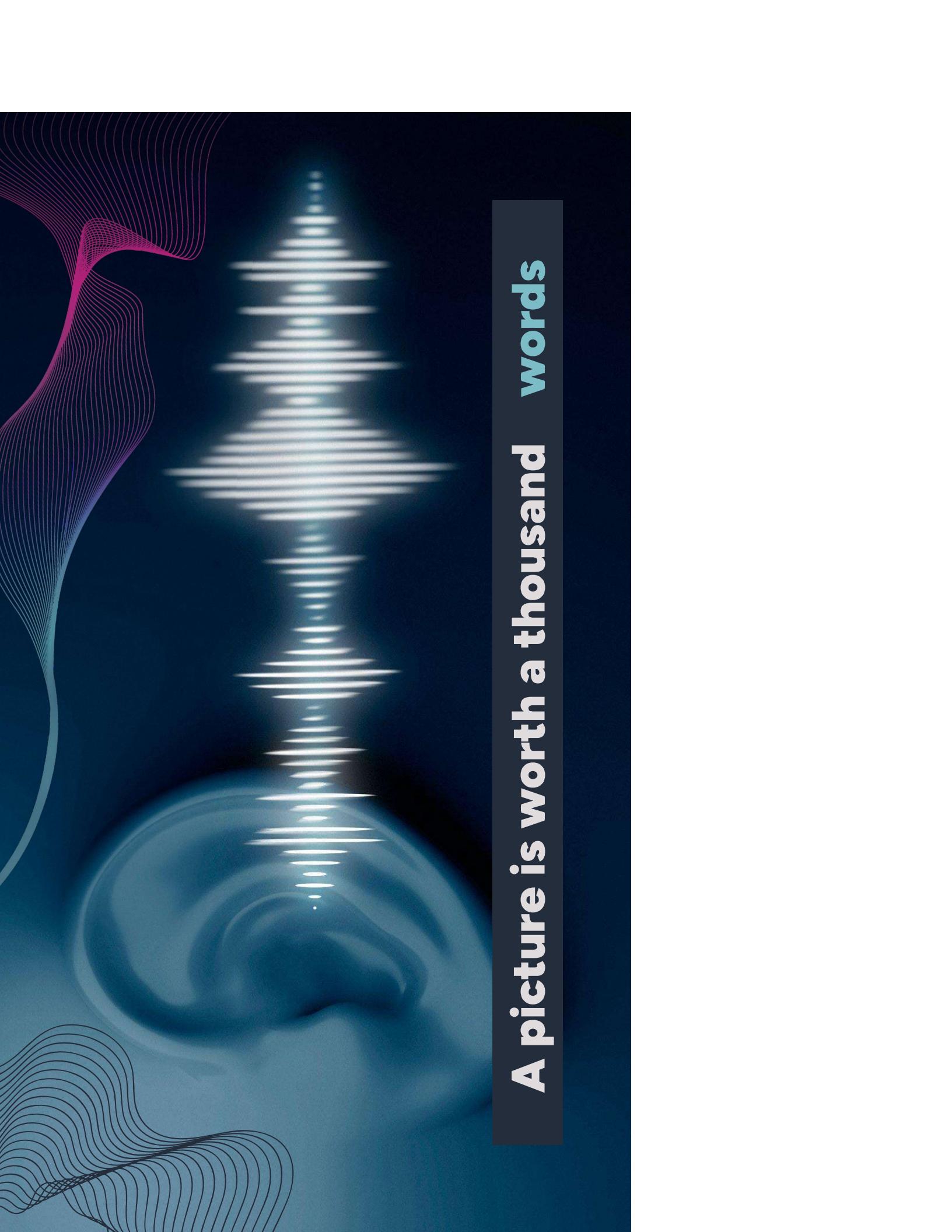
Mercury is the closest planet to the Sun



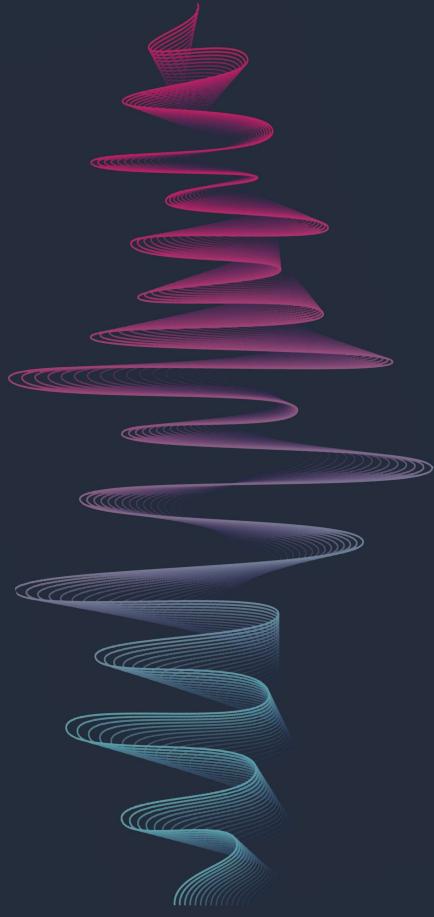
Rain

Despite being red, Mars is a cold place





A picture is worth a thousand words



98,300,000



Big numbers catch your audience's attention

The nature of sound waves



Diffraction

Mercury is the closest planet to the Sun and the smallest of them all



Reflection

Venus has a beautiful name and is the second planet from the Sun



Refraction

Despite being red, Mars is actually a cold place. It's full of iron oxide dust

A timeline always works well

Venus is the second planet from the Sun

Analysis

Despite being red, Mars is a very cold place

Propagation

01



Mercury is the closest planet to the Sun

02



Phases

03



Wave

Jupiter is the biggest planet of them all

04



Parts of a sound wave

Crest

Venus is the biggest planet of them all

Height

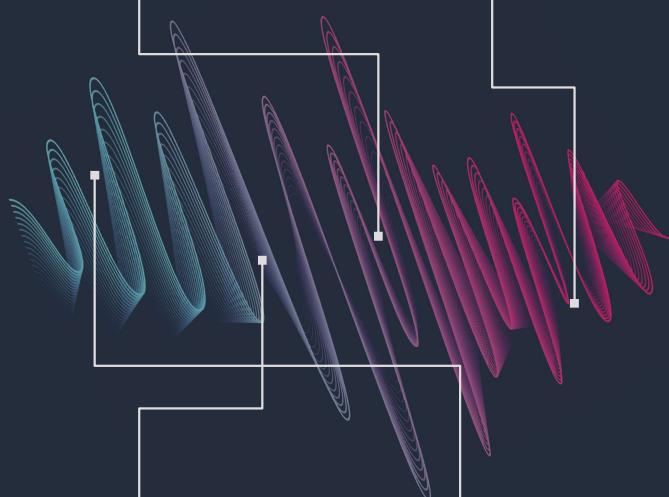
Neptune is the farthest planet of them all

Amplitude

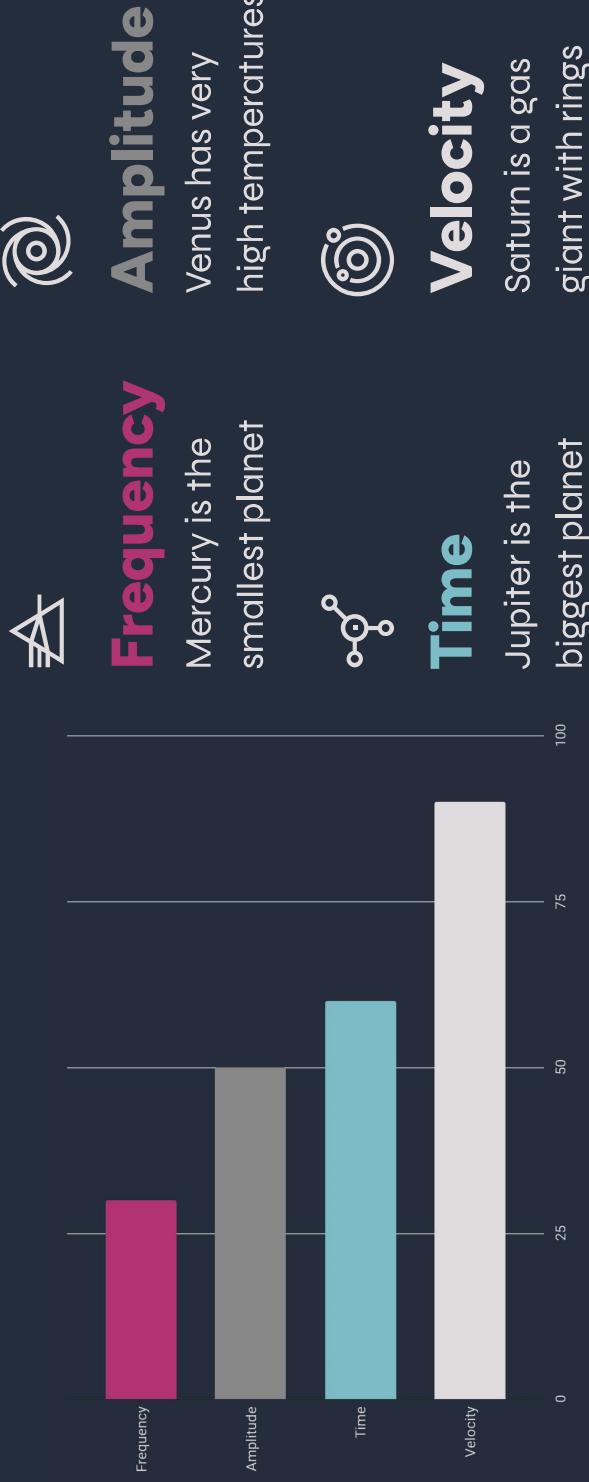
Mercury is the closest planet to the Sun

Wavelength

Jupiter is the biggest planet of them all



Analyzing sound waves



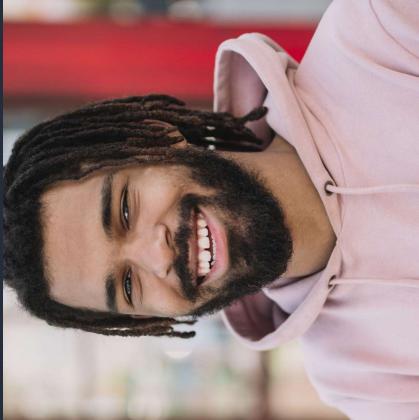
Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)

Our team



Sofia Hill

You can speak a bit about this
person here



Kaliyah Harris

You can speak a bit about this
person here

Sound waves according sounds

Characteristics of sounds



Sound pressure

- A. Venus is very big
- B. Neptune is cold
- C. Mars is a red planet

Sound speed

- A. Venus is very big
- B. Neptune is cold
- C. Mars is a red planet

Sound intensity

- A. Venus is a very big
- B. Neptune is cold
- C. Mars is a red planet

Activity 1: Find the differences

Students must order the correct characteristics below about each sound wave. They should drag and drop the words under the chosen sound wave

Higher pitch

More frequency

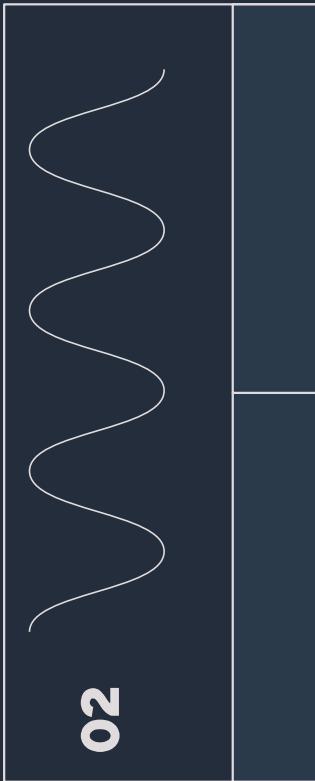
Louder

Greater amplitude

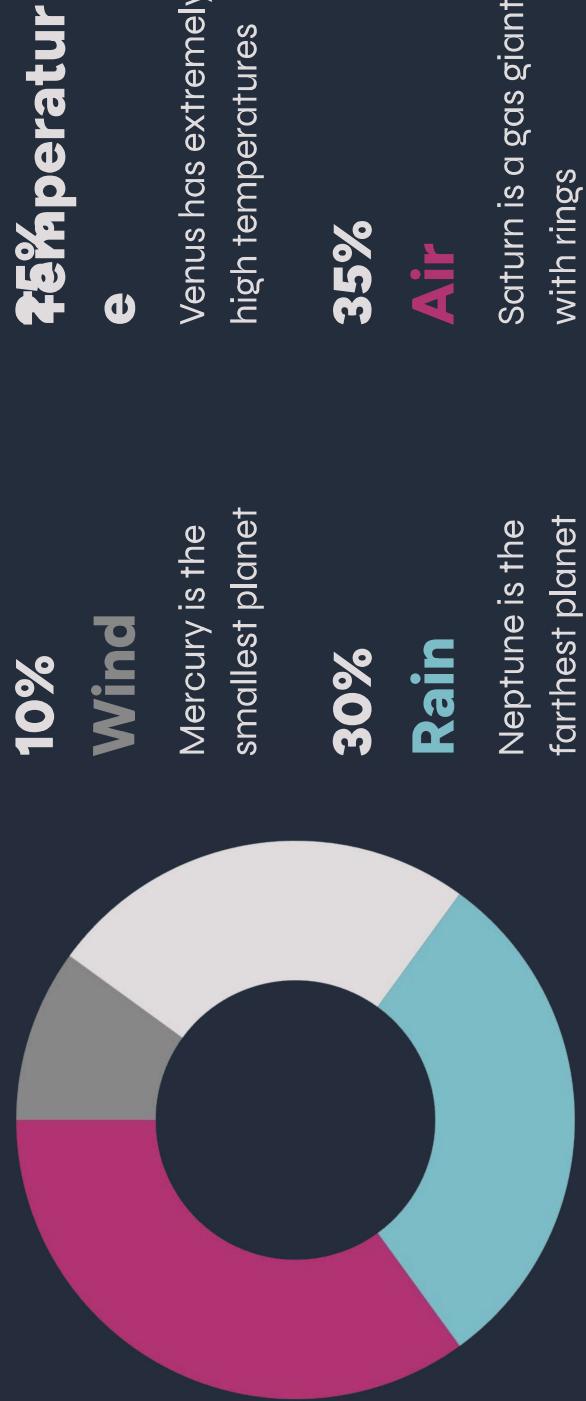
O1



O2



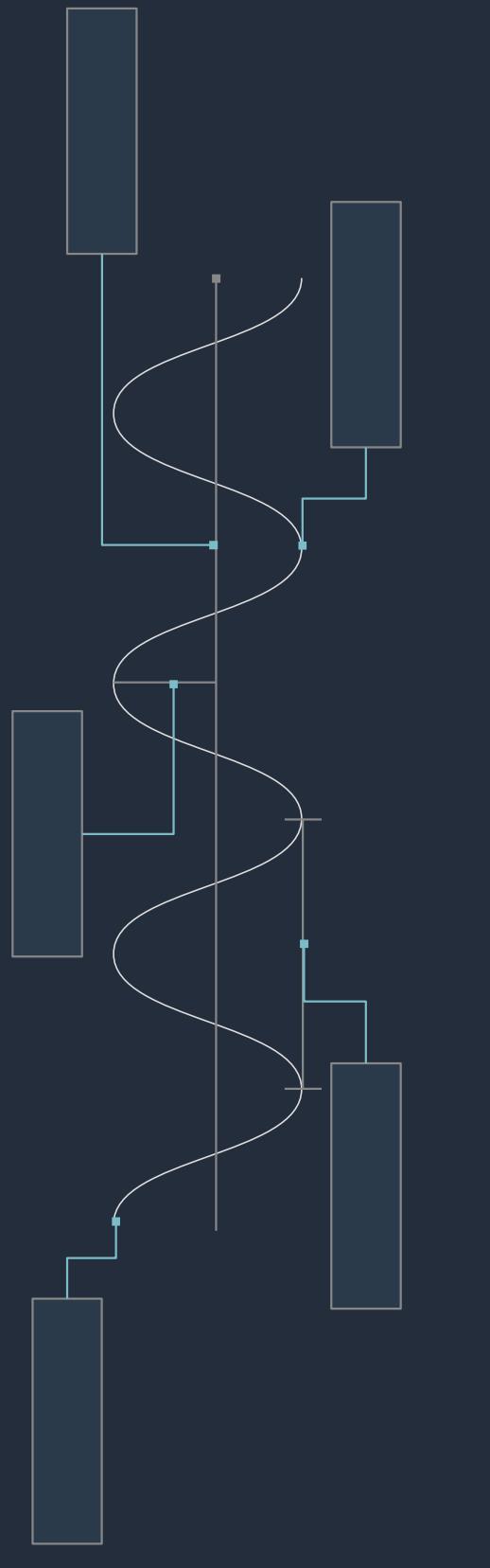
How do elements interfere?



Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)

Activity 2: parts of a sound wave

Name the different parts of a sound wave, type your answer in the corresponding box



Sound waves and its parts on time

Sound

20XX

Venus is a hot planet

Waves

20XX

Mercury is very small

Physics

20XX

Mars is made of basalt

Analysis

20XX

Jupiter is a gas giant

Computering

20XX

Saturn has rings

Frequencies

20XX

Neptune is a giant

Effects

20XX

The Sun is a star

Velocity

20XX

We live on Earth

Activity 3: Propagation of sound

Students must order the different mediums below according to the speed of sound propagation. They should drag and drop the elements to the table and write the type of wave for each one

Medium	Type of wave
Liquids	
Gases	
Solids	

Sound waves and shapes

Triangle	Square	Sine	Sawtooth
• Small • Red • Cold • Rocky	• Small • Hot • Dry • Volcanic	• Small • Hot • Rocky • Cratered	• Large • Cold • Gassy • Stripped
Mars is actually a very cold place	Venus is extremely hot planet	Mercury is the smallest planet	Jupiter is the biggest planet

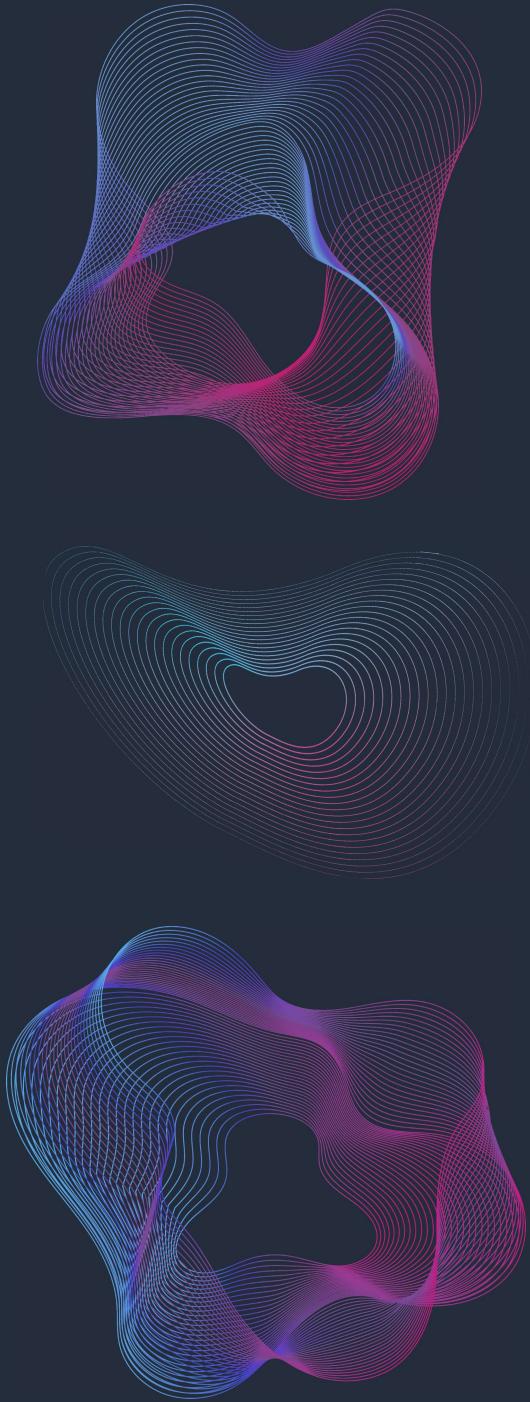
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- [Art exhibition social media post template](#)



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- [Wave sound electronic music poster collection](#)
- [Abstract background with pink and blue waves](#)
- [Dark blue background with wavy forms in two colors](#)
- [Collection of colorful light waves](#)

Photos

- [Sound waves coming out from human ear I](#)
- [Sound waves coming out from human ear II](#)

Icons

- [Icon Pack: Physics | Lineal](#)

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Pana

Amico

Bro

Rafiki

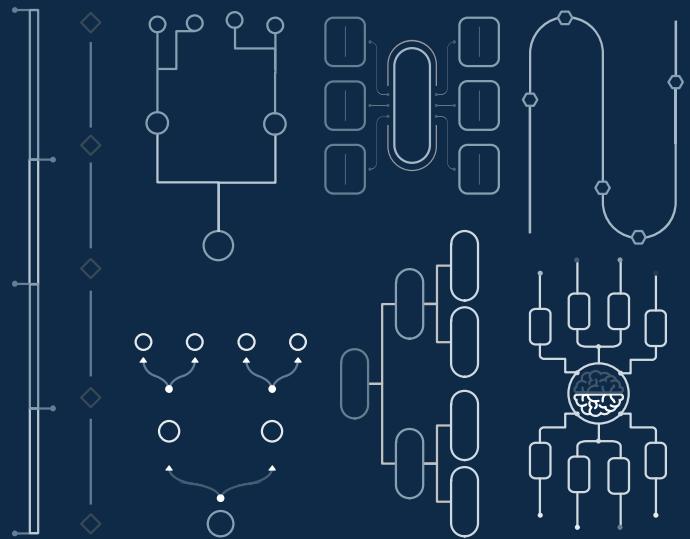
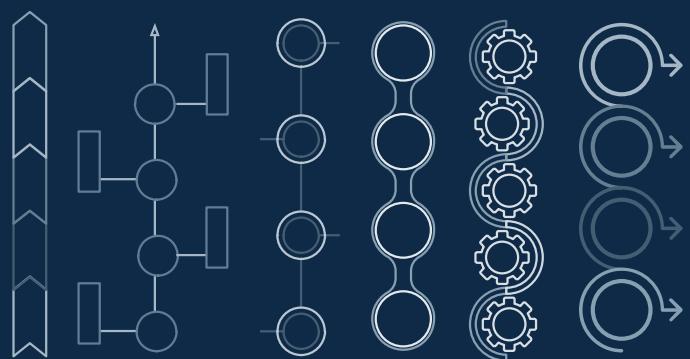
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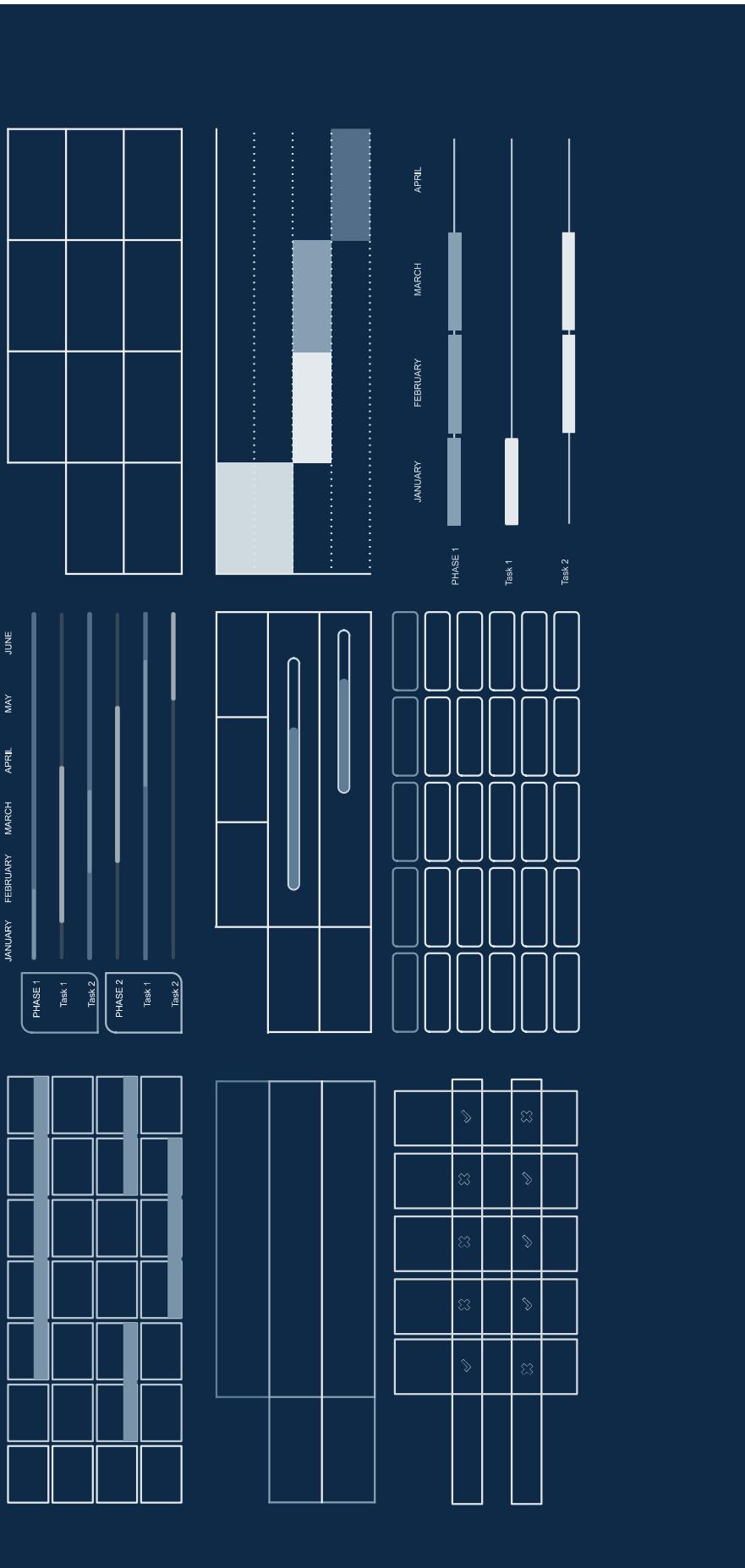
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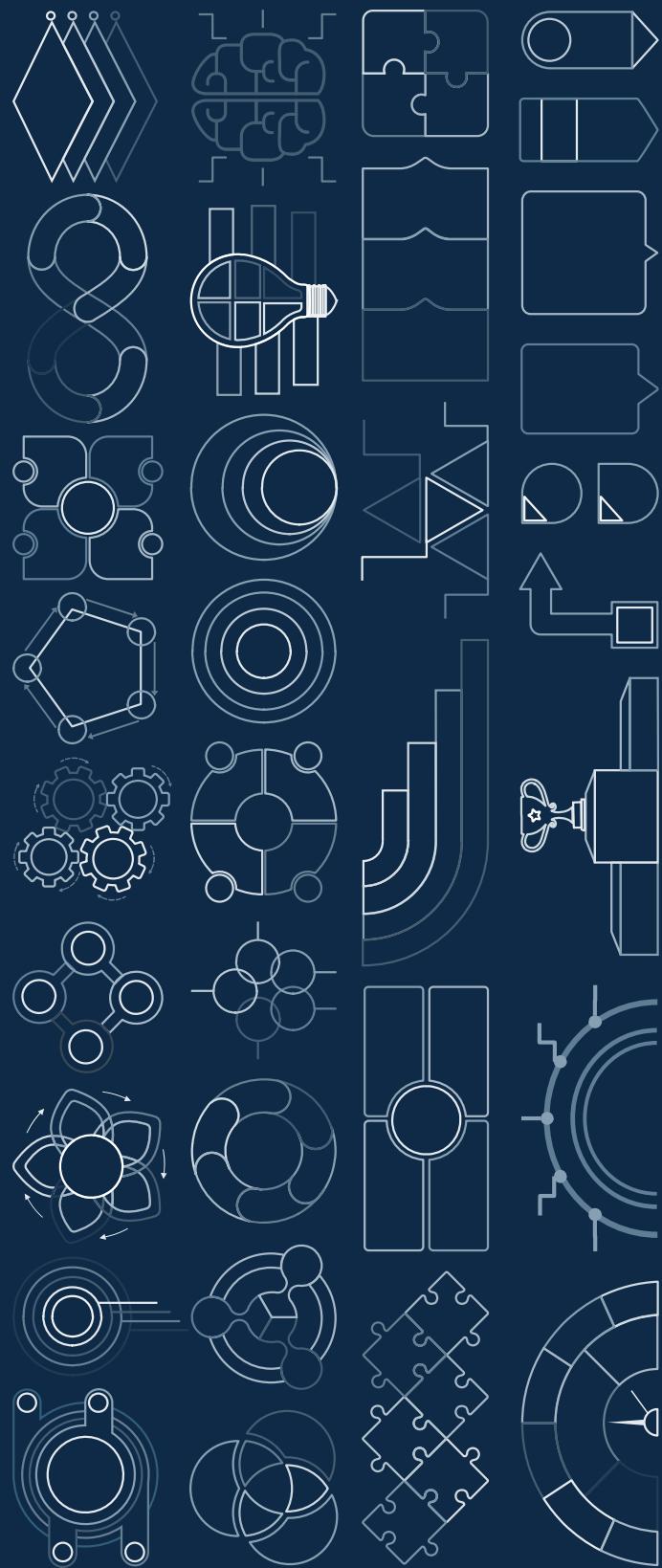
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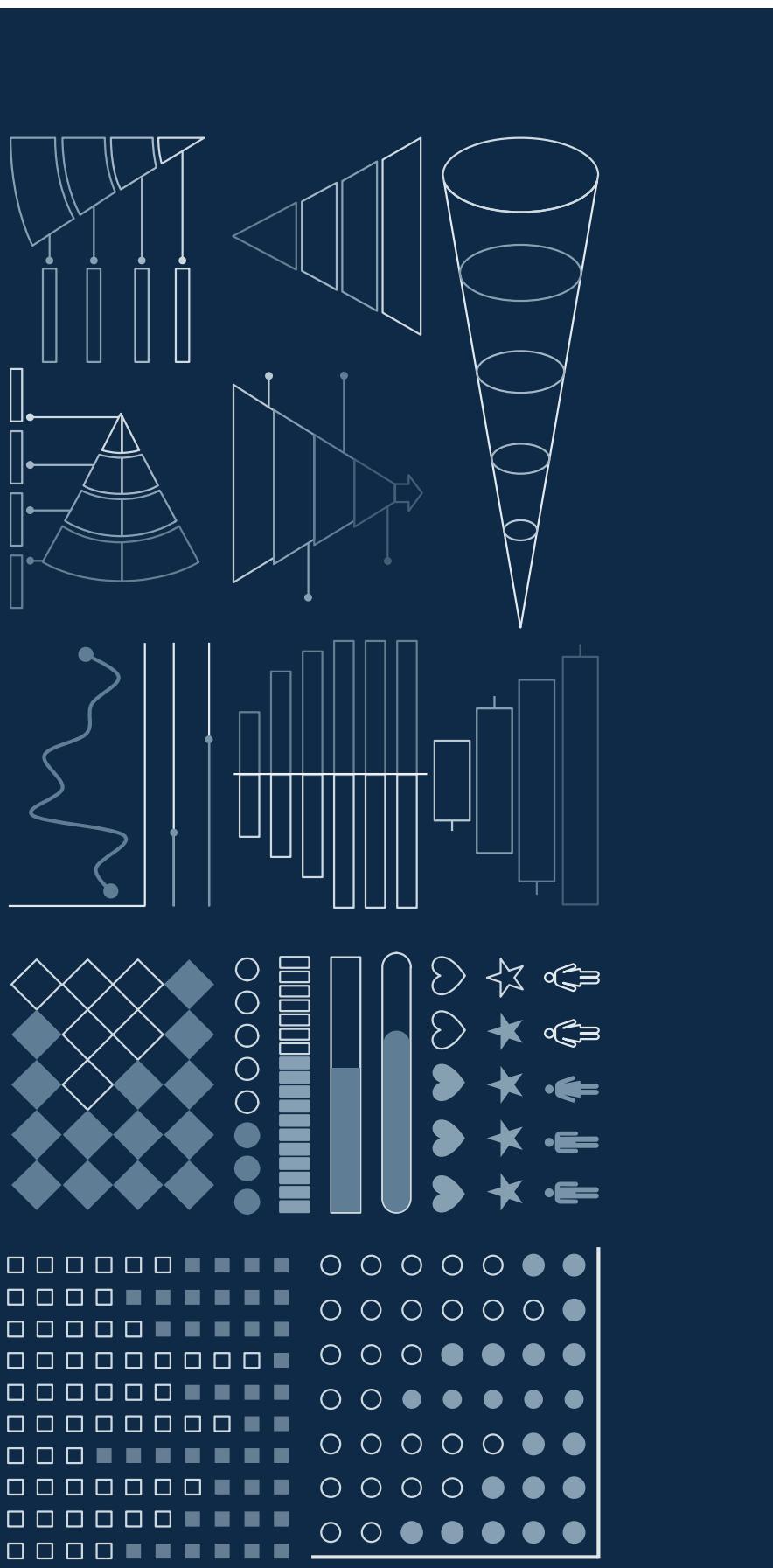












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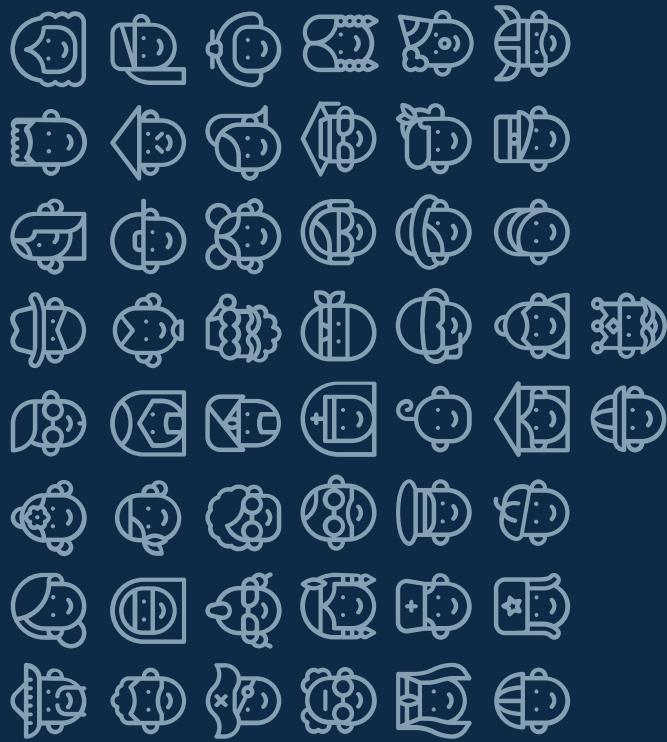
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