



# Trends of Music Parameters

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## Who?



People who interested in observing  
music parameter trends over time



Music journalists and critics, cultural researchers, artists,  
songwriters, music producers, ...



# What?

**Dataset:** Daily Global Top 200 Spotify songs with song ranks, music parameters, artist information, points (inversely proportional to song rank)

**Dataset source:** Kaggle


Dataset type	Data type	Dataset availability
Table	Attributes	Static

# What?


Attribute	Attribute type
Date	quantitative
Music parameters	quantitative
Artist nationality	categorical
Points	ordinal

**Music parameters:** Valence, Danceability, Energy, Loudness

# Why?



<b>VISUALIZATION</b>	WHY (Task Abstraction)	ACTION	TARGET
<b>Calendar Heatmap</b>	Analyze patterns in the music dataset linked to external factors.	Discover, Summarize	Trend
<b>Geo Heatmap</b>	Visualizing country-level contributions	Present	Distribution
<b>BoxPlot</b>	Summarize statistical distribution (median, Q1, Q3)	Derive	Features



# How?

## Visualization:

**Box Plots:** Aggregate of parameter, highlights the Min, Max, median, and quartiles (**Reduce; Aggregate**)

**Calendar HeatMap:** This heatmap visualizes the parameter values over time. (**Encode; Color saturation** due to **quantitative data**)

**Geo HeatMap:** sequential color scale (**Encode**)

## Interaction Design:

**Selection of Music parameters from box plot** (**Select, change**)

**Filtering data for a country by clicking on country in Geo heatmap** (**Reduce, filtering**).

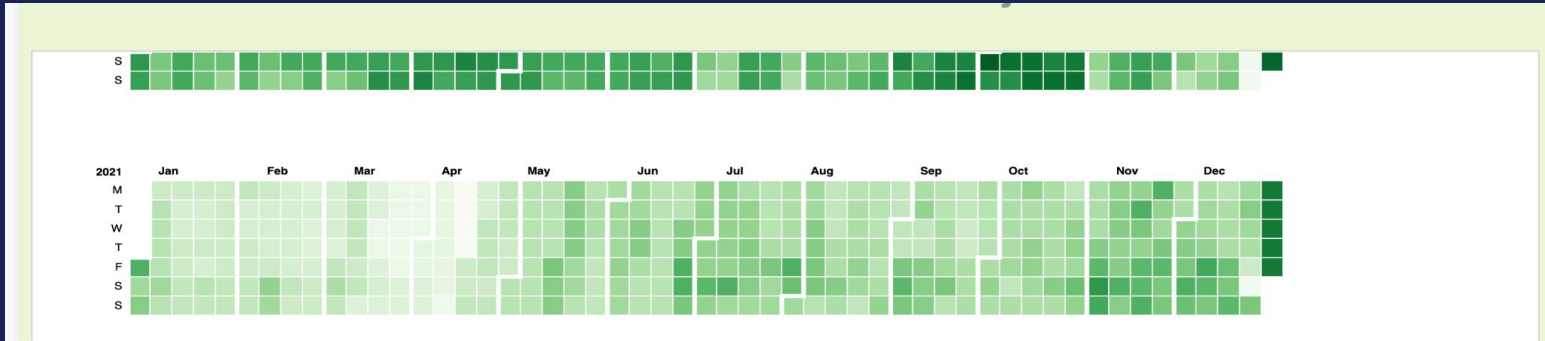
**Tooltips:** Instant feedback.

**Hover and Click Effects:** signaling interactivity.



# Domain findings

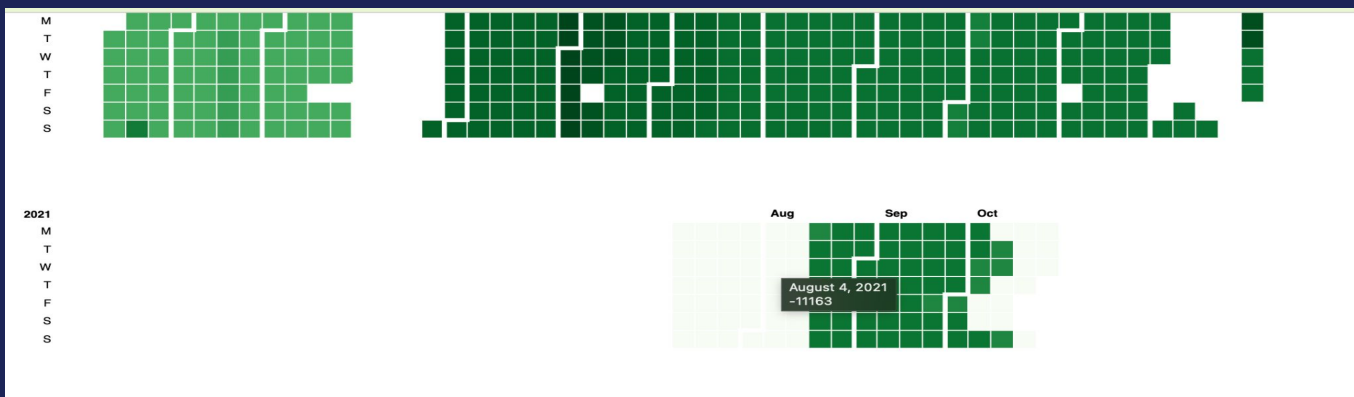
**Energy** : Lower(Global)  
**Events** : George Floyd Trial and Global Protests (March-April 2021).  
Suez Canal Blockage (March 23-29, 2021).





# Domain findings

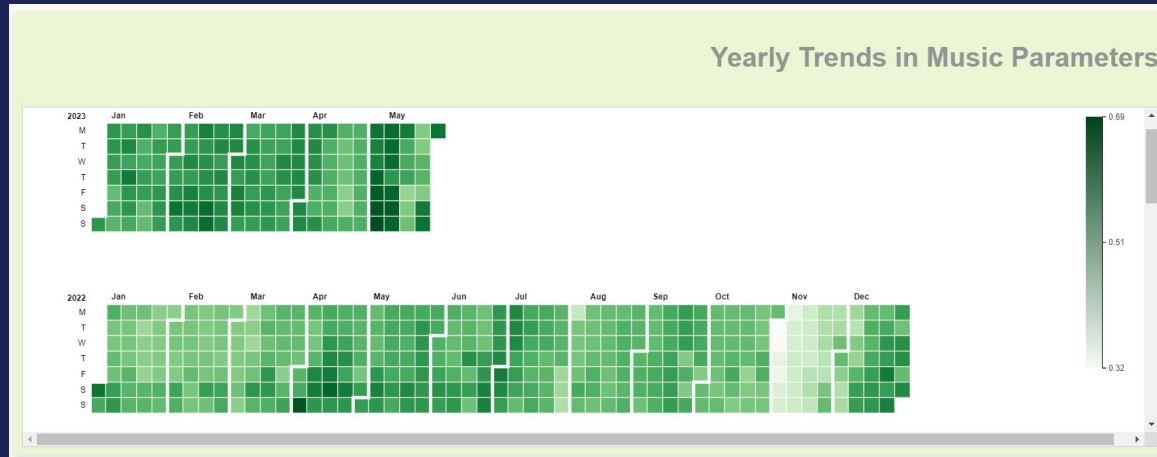
**Loudness :** Lower(India)  
**Events :** Resurgence of Farmer Strikes(July-August 2021).  
Devastating Floods in Several States (July-August 2021).





# Domain findings

**Valence** : early November 2022: lower (global data)  
**Events** : 2022 Russian invasion of Ukraine  
Afghanistan conflict  
2022 monkeypox outbreak



# Domain findings

**Valence** : Higher around year end (USA)  
**Events** : Christmas and Year End Celebration

