



# Spotify Data Analysis

"Streaming Insights: A Comprehensive Analysis of  
Spotify Usage"

Vinayak Jain



Select Platform

android

cast to device

iOS

mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

## ALBUMS

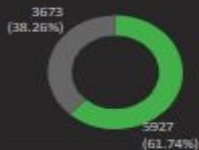
7383 Albums played over time

Latest Year (LY)  
Vs Previous Year (PY)1802  
Vs PY : 2,258 (-20.19%)

2024

Albums Played

Weekday Weekend



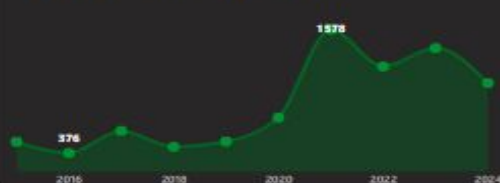
## Top 5 Albums

By Total Album Count

The Beatles	1987
Past Masters	1627
Abbey Road	1360
The Wall	1139
Revolver	982

## ARTISTS

3835 Artists played over time

Latest Year (LY)  
Vs Previous Year (PY)1058  
Vs PY : 1,400 (-24.43%)

2024

Artists Played

Weekday Weekend



## Top 5 Artists

By Total Artist Count

The Beatles	12897
The Killers	6072
John Mayer	4344
Bob Dylan	3548
Paul McCartn...	2593

## TRACKS

12724 Tracks played over time

Latest Year (LY)  
Vs Previous Year (PY)3508  
Vs PY : 3,916 (-10.42%)

2024

Tracks Played

Weekday Weekend



## Top 5 Tracks

By Total Track Count

Ode To The	180
In the Blood	168
Dying Breed	164
19 Dias y 500...	144
Concerning H...	138
For What It's ...	138



Select Platform

android

cast to device

iOS

mac

web player

windows

Year

All

Is Shuffled?

All

Is Skipped?

All

## Listening Hours Vs Days



## Avg Listening Time (Min) Vs Track Frequency

Listening Time (min)

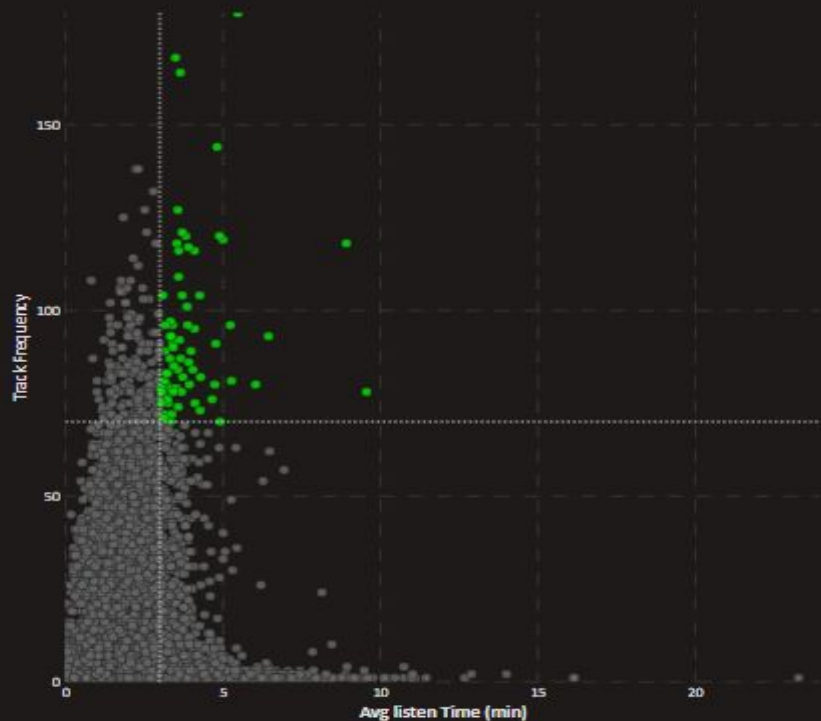
3

Track Frequency

70

3

70



Album Name	No of Albums	No of Artists	No of Track Played	Milliseconds Played	Avg listen Time (min)
!!Going Places!!	1	1	1	2206762	1.47
"Awaken, My Love!"	1	1	2	5446862	3.78
"Feel Flows" The Sunflower & Surf's Up Sessions 1969-1971	1	1	1	155480	2.59
"Heroes"	1	1	1	8206237	3.80
"Hit the Quan" #HTQ	1	1	1	215516	1.20
"Let's Rock"	1	1	12	31905749	2.76
"The Opera Gala - Live from Baden-Baden"	1	1	1	11130456	5.15
#1 Record	1	1	2	276870	2.31
#1 Spot	1	1	1	275018	4.58
#1s ... and then some	1	1	1	208106	3.47
#3 Deluxe Version	1	1	5	12912289	1.19
#Golosinas2018	1	1	1	212092	3.53
#Idiota	1	1	1	183903	3.07
#SELFIE	1	1	1	4563	0.08
(What's The Story) Morning Glory?	1	1	5	42501539	3.23
...And Out Come The Wolves	1	1	1	157525	2.63
...baby one more time	1	1	1	3894	0.06
...but i'd rather be with you	1	1	1	229507	3.83
...E Penso A Te	1	1	1	184546	3.08
@dannocan	1	1	1	665161	2.22
~how i'm feeling~	1	1	1	8539988	3.39
iDOS!	1	1	1	59904	1.00
iMÉXICO Por Siempre!	1	1	11	4838258	1.83
iTRÉ!	1	1	1	3032726	1.58
iUNO!	1	1	1	303293	5.05
¿Con Quién Se Queda El Perro?	1	1	3	1667856	2.14
¿Dónde estás? (feat. Bunbury, Andrés Calamaro y Loquillo)	1	1	1	226813	3.78
Total	7907	4112	13665	19229530935	2.14



Select Platform

android



Spotify

mac

web player

windows

Is Shuffled?

All

Is Skipped?

All

# STEPS IN PROJECT

✓ Requirement Gathering/ Business Requirements

✓ Data Walkthrough

✓ Data Connection

✓ Data Cleaning / Quality Check

✓ Data Modeling

✓ Data Processing

✓ DAX Calculations

✓ Dashboard Lay outing

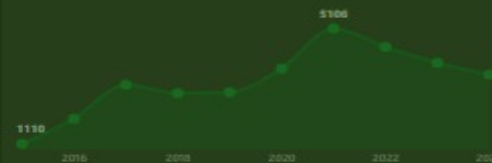
✓ Charts Development and Formatting

✓ Dashboard / Report Development

✓ Insights Generation

## TRACKS

12724 Tracks played over time



Latest Year (LY)  
Vs Previous Year (PY)

3508

Vs PY : 3,916 (-10.42%)

2024

Tracks Played  
Weekday Weekend



Top 5 Tracks  
By Total Track Count

Ode To The ...	180
In the Blood	168
Dying Breed	164
19 Dias y 500...	144
Concerning H...	138
For What It's ...	138

3835 Artists played over time



Latest Year (LY)  
Vs Previous Year (PY)

1058

Vs PY : 1,400 (-24.43%)

2024

Artists Played  
Weekday Weekend



Top 5 Artists  
By Total Artist Count

The Beatles	12897
John Mayer	4344
Bob Dylan	3548
Paul McCartn...	2593



mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

# Business Requirement

With the rise of digital music consumption, gaining insights into listener behavior has become vital for streaming services and users alike. This project leverages Spotify Albums data to uncover trends in how albums are consumed over time, enabling a deeper understanding of user engagement.

## ALBUMS

### Album Listening Trends Over Time

Examine how the frequency of album plays evolves across different months and years.

Latest Year (LY)  
Vs Previous Year (PY)

### Yearly Album Listening Insights

Discover how many unique albums were played each year, and pinpoint the years with the highest and lowest activity.

### Weekday vs Weekend Listening Patterns

Analyze differences in album engagement between weekdays and weekends to detect behavioral trends.

### Top 5 Most Played Albums

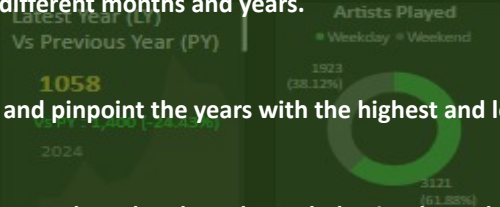
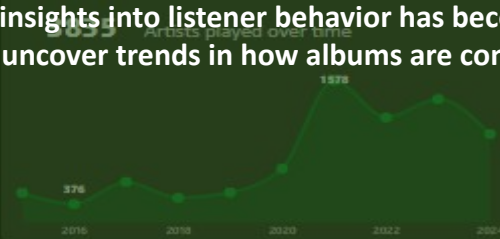
Identify the albums that garnered the most listens, highlighting user preferences.

### Year-over-Year Comparison

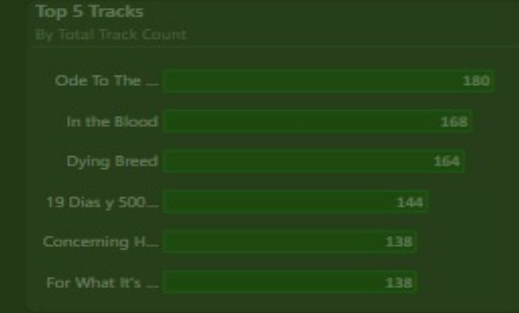
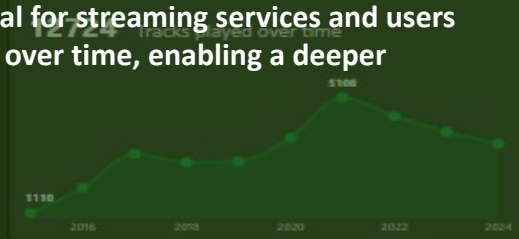
Compare album plays in the most recent year to the previous one, including:

- Trends between Latest Year (LY) and Previous Year (PY)
- Year-over-Year (YoY) growth in album plays

## ARTISTS



## TRACKS







mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

# Business Requirement

## ARTISTS



### Artist Listening Trends Over Time

Monitor how user engagement with different artists changes throughout the months and years.



### Annual Artist Listening Insights

Explore the number of distinct artists listened to each year and identify the years with the highest and lowest diversity in artist plays.



### Weekday vs Weekend Artist Engagement

Evaluate the differences in artist listening behavior on weekdays compared to weekends to uncover listening patterns.



### Top 5 Most Played Artists

Highlight the top five artists with the highest number of plays, showcasing listener preferences.



### Yearly Comparison of Artist Engagement

Analyze changes in artist listening between the most recent and previous year, including:

- Latest Year (LY) vs Previous Year (PY) performance
- Year-over-Year (YoY) growth trends in artist engagement

## ARTISTS

3835 Artists played over time



Vs Previous Year (PY)

1058

(27.33%)

2024

Weekday vs Weekend

1923 (38.12%)

3121 (61.88%)

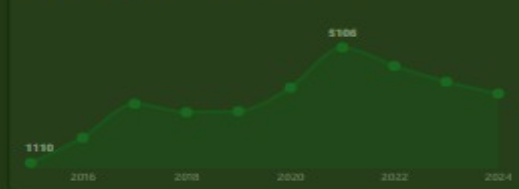
2024

Top 5 Artists  
By Total Artist Count

The Beatles	12897
The Killers	6072
John Mayer	4344
Bob Dylan	3548
Paul McCartney	2593

## TRACKS

12724 Tracks played over time



Vs Previous Year (PY)

3508

(27.33%)

2024

Weekday vs Weekend

6382 (37.15%)

10795 (62.85%)

2024

Top 5 Tracks  
By Total Track Count

Ode To The ...	180
In the Blood	168
Dying Breed	164
19 Dias y 500...	144
Concerning H...	138
For What It's ...	138



mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

# Business Requirement

## TRACKS



### Track Listening Trends Over Time

Track how users' listening behavior for individual tracks shifts over the course of months and years.



### Yearly Track Listening Breakdown

Assess the number of unique tracks played each year and determine which years had the highest and lowest track diversity.



### Weekday vs Weekend Track Listening Patterns

Analyze how track listening differs between weekdays and weekends to reveal usage trends.



### Top 5 Most Played Tracks

Showcase the five tracks with the highest play counts, reflecting user favorites.

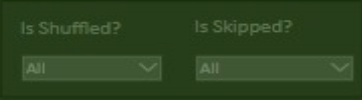


### Year-over-Year Track Engagement Comparison

Evaluate how track plays have changed from the previous year to the latest year, including:

- Comparative trends between Latest Year (LY) and Previous Year (PY)
- Year-over-Year (YoY) growth in track listening activity





# Business Requirement

## LISTENING PATTERNS



### Peak Listening Time Visualization

Utilize a Heat Map to uncover peak listening hours by displaying user activity intensity across different days and time slots using color gradients.



### Listening Duration vs Track Frequency (Quadrant Analysis)

Leverage a Scatter Plot with quadrant segmentation to categorize tracks based on how often and how long they are played:

- 🎯 **High Frequency, High Duration** – Tracks that are both widely popular and highly engaging
- 📉 **Low Frequency, High Duration** – Tracks with fewer plays but strong listener retention
- 📈 **High Frequency, Low Duration** – Short tracks that are frequently replayed
- 📉 **Low Frequency, Low Duration** – Tracks with minimal engagement and listen time

## ARTISTS

3835 Artists played over time



## TRACKS

12724 Tracks played over time



Latest Year (LY)  
Vs Previous Year (PY)

Albums Played  
Weekday \* Weekend

Latest Year (LY)  
Vs Previous Year (PY)

Artists Played  
Weekday \* Weekend

Latest Year (LY)  
Vs Previous Year (PY)

Tracks Played  
Weekday \* Weekend

2024  
PY : 2,258 (~20.19%)

2024  
PY : 1,400 (~24.43%)

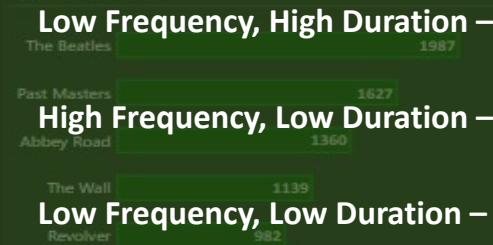
2024  
PY : 3,916 (~10.42%)

2024  
PY : 10795 (62.83%)

2024  
PY : 10795 (62.83%)

2024  
PY : 10795 (62.83%)

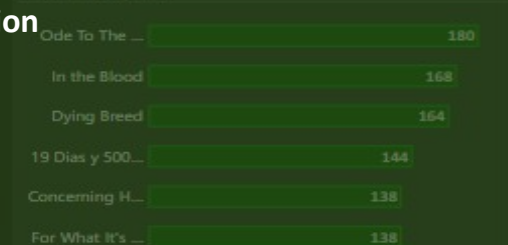
### Top 5 Albums By Total Album Count



### Top 5 Artists By Total Artist Count



### Top 5 Tracks By Total Track Count





# Business Requirement

## LISTENING PATTERNS




### Peak Listening Time Visualization

Utilize a Heat Map to uncover peak listening hours by displaying user activity intensity across different days and time slots using color gradients.



### Listening Duration vs Track Frequency (Quadrant Analysis)

Leverage a Scatter Plot with quadrant segmentation to categorize tracks based on how often and how long they are played:

-  **High Frequency, High Duration** – Tracks that are both widely popular and highly engaging

- **Low Frequency, High Duration** – Tracks with fewer plays but strong listener retention

- **High Frequency, Low Duration** – Short tracks that are frequently replayed

- **Low Frequency, Low Duration** – Tracks with minimal engagement and listen time

### ARTISTS

3835 Artists played over time




### TRACKS

12724 Tracks played over time



### Listening Duration vs Track Frequency (Quadrant Analysis)

Leverage a Scatter Plot with quadrant segmentation to categorize tracks based on how often and how long they are played:

-  **High Frequency, High Duration** – Tracks that are both widely popular and highly engaging

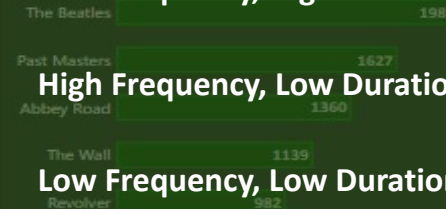
- **Low Frequency, High Duration** – Tracks with fewer plays but strong listener retention

- **High Frequency, Low Duration** – Short tracks that are frequently replayed

- **Low Frequency, Low Duration** – Tracks with minimal engagement and listen time

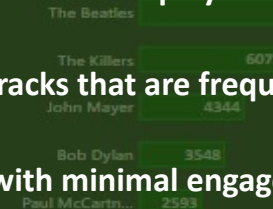
#### Top 5 Albums

By Total Album Count



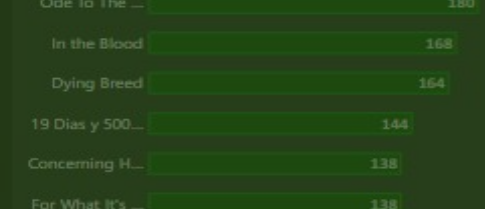
#### Top 5 Artists

By Total Artist Count



#### Top 5 Tracks

By Total Track Count





Select Platform

android

ios

mac

windows

Is Shuffled?

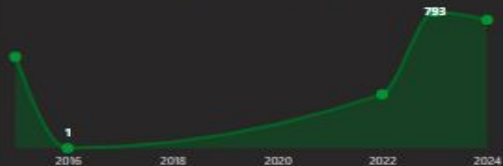
True

Is Skipped?

True

## ALBUMS

1620 Albums played over time

Latest Year (LY)  
Vs Previous Year (PY)

747

Vs PY : 793 (-5.80%)

2024

Albums Played

Weekday Weekend



## Top 5 Albums

By Total Album Count

The Beatles	49
Past Masters	48
Ultimate Sina...	37
Tú Y Yo	36
Abbey Road	35

## ARTISTS

933 Artists played over time

Latest Year (LY)  
Vs Previous Year (PY)

462

Vs PY : 457 (1.09%)

2024

Artists Played

Weekday Weekend



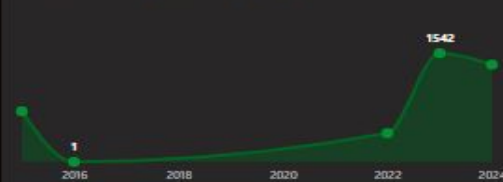
## Top 5 Artists

By Total Artist Count

The Beatles	352
The Killers	167
Bob Dylan	140
John Mayer	134
Led Zeppelin	111

## TRACKS

3083 Tracks played over time

Latest Year (LY)  
Vs Previous Year (PY)

1380

Vs PY : 1,542 (-10.51%)

2024

Tracks Played

Weekday Weekend



## Top 5 Tracks

By Total Track Count

Old Thing Ba...	16
What Do You ...	15
Photograph	12
Un Zombie A ...	12
Stole the Show	11



mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

# Spotify Listening Behavior Report

Filters Applied: *Shuffled = True* | *Skipped = True*



## Behavioral Overview

- Users who shuffle and skip tracks show high musical curiosity—constantly exploring, but selective about what they stick
- Despite this, 3083 tracks were still played—showing that even picky listeners engage meaningfully with content.

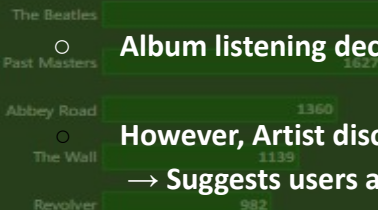


## Trend Signals

- A clear surge in listening from 2022 to 2023, followed by a slight drop in 2024:

### Top 5 Albums

By Total Album Count



Tracks played dropped by 10.51%

Album listening decreased by 5.80%

However, Artist discovery increased by 1.09%

→ Suggests users are still exploring *new artists*, even if track replay is reducing.

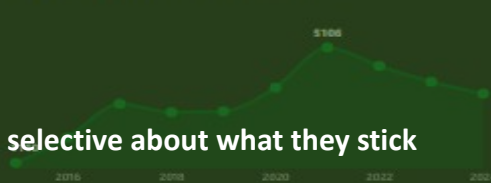
### Top 5 Artists

By Total Artist Count



## TRACKS

12724 Tracks played over time

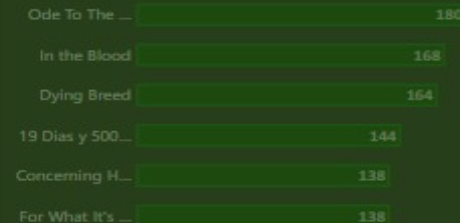


Tracks Played Vs Previous Year (PY)



### Top 5 Tracks

By Total Track Count





Select a term



Spotify®

mac

web player

windows

Is Shuffled?

Is Skipped?

All

All



## Timing Insights

- Weekends dominate listening behavior:
  - Over 61% of albums, 59% of artists, and 63% of tracks were played during weekends.
- Hypothesis: Users shuffle and skip more on weekends while casually browsing or multitasking.



## Loyalty vs Experimentation

- The Beatles emerge as the undisputed favorite, dominating top albums *and* top artists.
  - Even among shuffle/skip-heavy users, their content retains attention.
- Other frequent picks show mix of legacy and emotional tracks:
  - Photograph*, *What Do You Mean*, *Old Thing Back* → emotionally resonant, catchy, or nostalgic content wins.

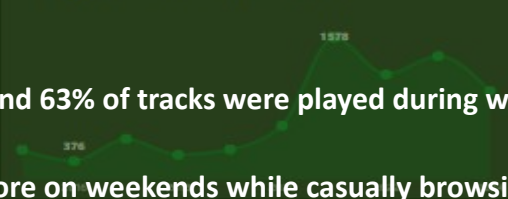
### ALBUMS

7383 Albums played over time



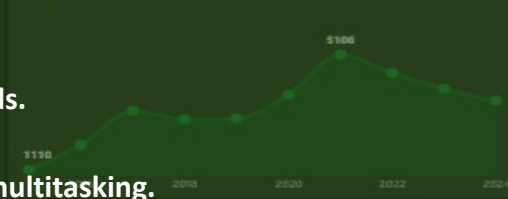
### ARTISTS

3835 Artists played over time



### TRACKS

12724 Tracks played over time



#### Latest Year (LY)

Vs Previous Year (PY)

1802

Vs PY: 1,755 (-2.61%)

2024

#### Albums Played

Weekday Weekend

3673

(38.26%)

2024

#### Latest Year (LY)

Vs Previous Year (PY)

1058

Vs PY: 1,400 (-24.43%)

2024

#### Artists Played

Weekday Weekend

1923

(38.12%)

2024

#### Latest Year (LY)

Vs Previous Year (PY)

3508

Vs PY: 3,916 (-10.42%)

2024

#### Tracks Played

Weekday Weekend

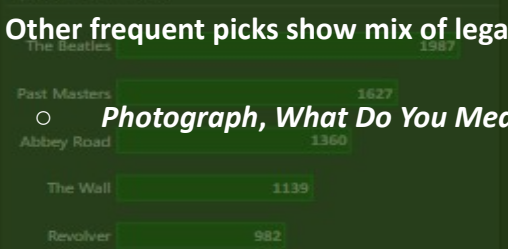
6382

(37.15%)

2024

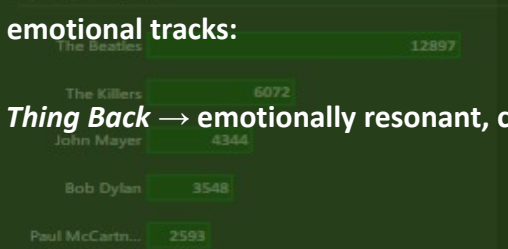
#### Top 5 Albums

By Total Album Count



#### Top 5 Artists

By Total Artist Count



#### Top 5 Tracks

By Total Track Count







Select a time frame



Spotify

mac

web player

windows

Is Shuffled?

Is Skipped?

All

All



## Smart Listener Segmentation

These users tend to:

- Explore broadly, but decide quickly (high skip rate)
- Prefer randomized listening (shuffle) but gravitate back to favorites
- Likely exhibit “playlist fatigue” – skipping more in search of mood-matching content

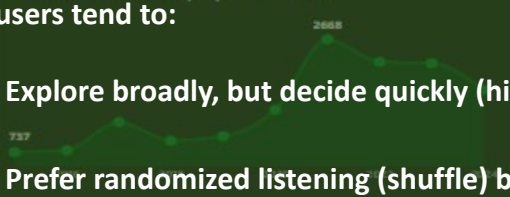


## Strategic Takeaways

1. Focus weekend marketing on curated shuffle playlists with sticky content—listeners are most active but indecisive.
2. Introduce dynamic playlist reshuffling—to combat skip fatigue while still supporting exploration.
3. Leverage high-skip but high-play artists for A/B testing new releases or formats.

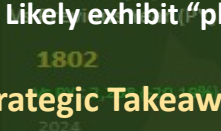
### ALBUMS

7383 Albums played over time



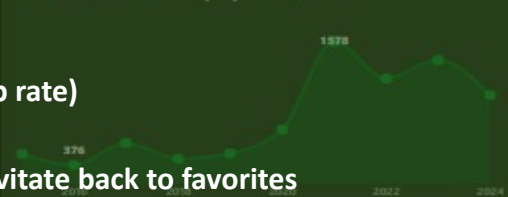
Latest Year (LY)

Albums Played



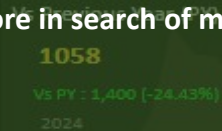
### ARTISTS

3835 Artists played over time



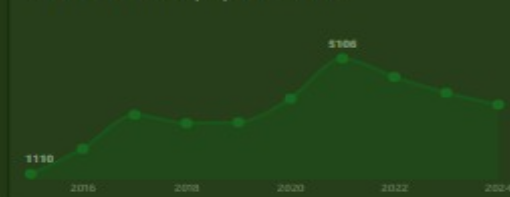
Latest Year (LY)

Artists Played

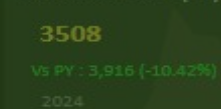


### TRACKS

12724 Tracks played over time



Latest Year (LY)  
Vs Previous Year (PY)



Tracks Played



#### Top 5 Albums

By Total Album Count



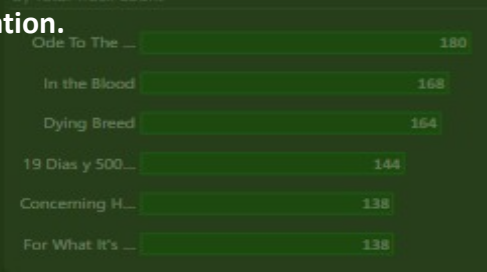
#### Top 5 Artists

By Total Artist Count



#### Top 5 Tracks

By Total Track Count





Select Platform

android

cast to device

ios

mac

windows

Year

All

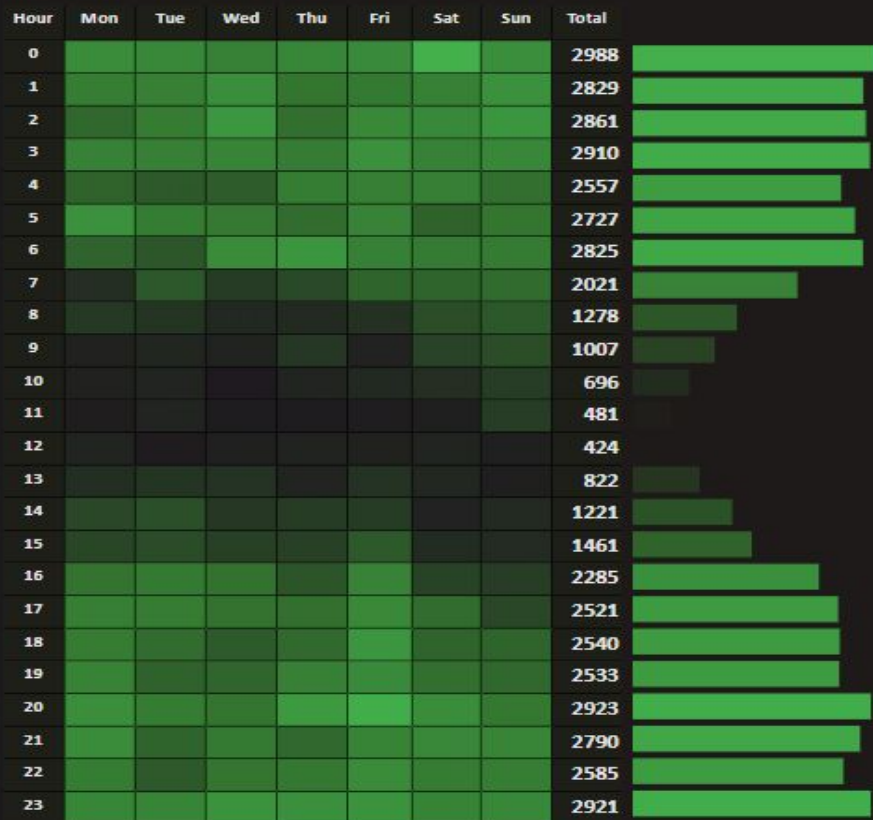
Is Shuffled?

True

Is Skipped?

False

### Listening Hours Vs Days



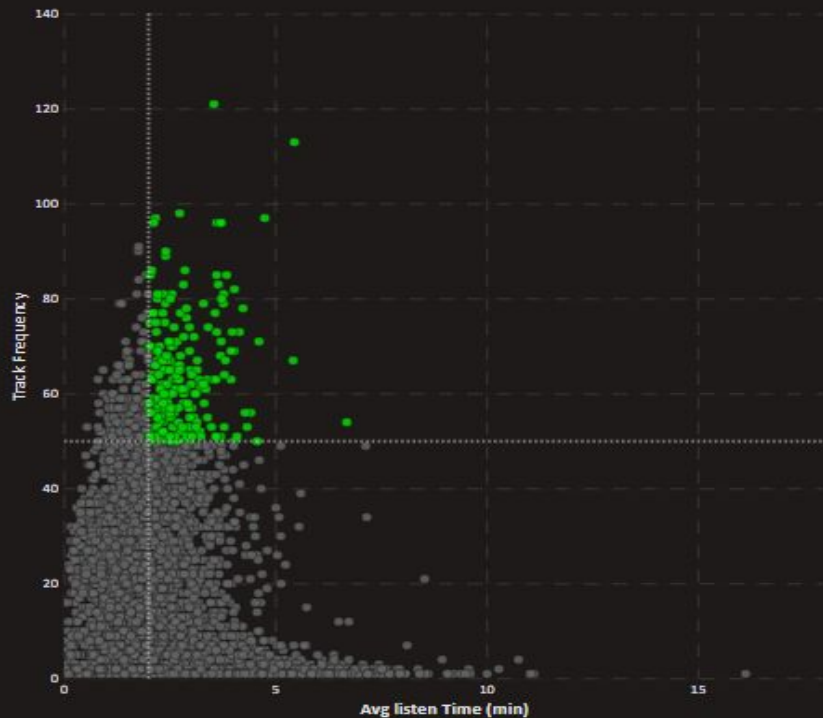
### Avg Listening Time (Min) Vs Track Frequency

Listening Time (min)

2

Track Frequency

50





mac

web player

windows

Is Shuffled?

Is Skipped?

All

All

# Spotify Listening Behavior

## 🔥 Heatmap Analysis — Listening Hours vs Days

- **Peak Hours:**

- Heavy listening between midnight to 6 AM and 6 PM to 11 PM.

- Unusual engagement spike at 3 AM (2910 listens) and 0 AM (2988 listens) suggests a strong night owl or late-night vibe-chasing user group.

- **Low Engagement:**

- Between 9 AM – 1 PM, activity sharply drops—users are likely busy or not using the platform actively during work/study hours.

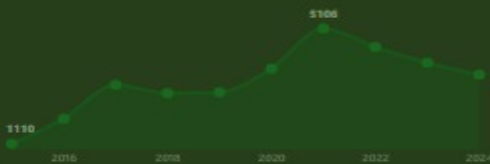
- **Top Listening Days:**

- Even distribution across all days, but Sunday and Monday are consistently strong.

- The behavior on Sunday night could indicate wind-down listening, while Monday listening could reflect fresh week energy.

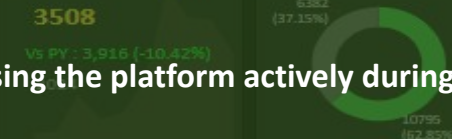
## TRACKS

12724 Tracks played over time



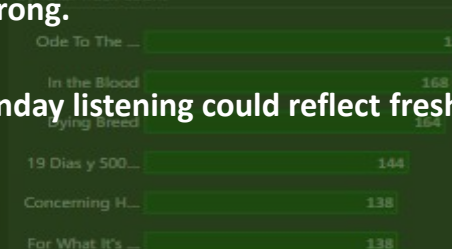
Latest Year (LY) Vs Previous Year (PY)

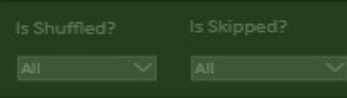
Weekday Weekend



## Top 5 Tracks

By Total Track Count





Listening Time  $\geq 2$  mins , Track Frequency  $\geq 50$

## Key Insight Zones (Quadrant-Based):

### 1. High Frequency & High Listen Time (Top Right)

*These are the hero tracks* – well-loved, repeatedly played, and listened in full.

These could be perfect for playlist anchors or featured tracks in editorial recommendations.

### 2. High Frequency & Low Listening Time (Bottom Right)

Many tracks here—frequent plays but shorter duration.

These may include interludes, intros, or mood-setting tracks.

Could be leveraged for transitions in playlists.

### 3. Low Frequency & High Listen Time (Top Left)

Fewer data points – possibly niche or experimental tracks that resonate deeply with a smaller audience.

Great candidates for algorithmic personalization.

### 4. Low Frequency & Low Listening Time (Bottom Left)

Most grayed-out dots fall here—indicates exploratory plays that didn't land.

Useful for refining recommendation engines to de-prioritize for this user group.