



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?

All

Is Skipped?

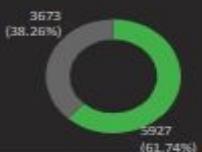
All

ALBUMS

7383 Albums played over timeLatest 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 timeLatest Year (LY)
Vs Previous Year (PY)**1058**

Vs PY : 1,400 (-24.43%)

2024

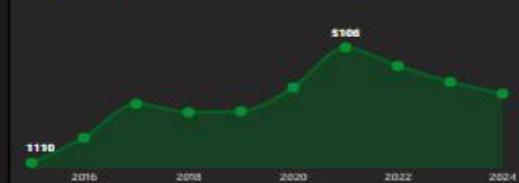
Artists Played
● Weekday ● Weekend

Top 5 Artists

By Total Artist Count

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

TRACKS

12724 Tracks played over timeLatest 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

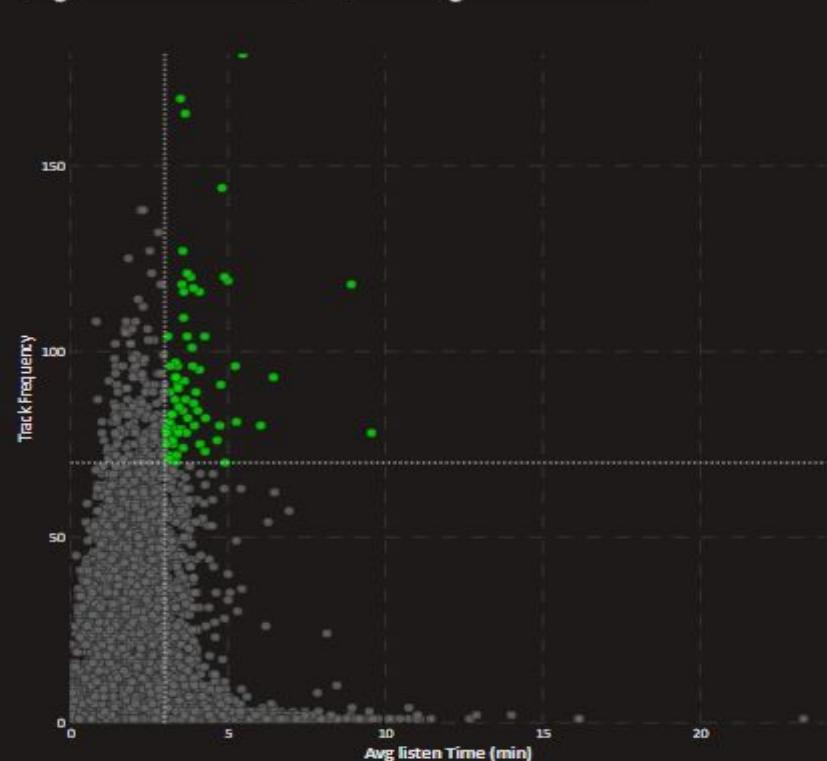
Is Skipped?

All

Listening Hours Vs Days

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0								3892
1								3672
2								3507
3								3427
4								3122
5								3256
6								3381
7								2731
8								1619
9								1224
10								883
11								662
12								491
13								1086
14								1620
15								1955
16								2916
17								3464
18								3479
19								3331
20								3789
21								3594
22								3411
23								3758

Avg Listening Time (Min) Vs Track Frequency





	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
▢	@dannocean	1	1	1	665161	2.22
▢	~how i'm feeling~	1	1	1	8539988	3.39
▢	¡DOS!	1	1	1	59904	1.00
▢	¡MÉXICO Por Siempre!	1	1	11	4838258	1.83
▢	¡TRÉ!	1	1	1	3032726	1.58
▢	¡UNO!	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: **Spotify**

android mac web player windows

Is Shuffled? All

Is Skipped? All

STEPS IN PROJECT

7383 Albums played over time

✓ Requirement Gathering/ Business Requirements

✓ Data Walkthrough

✓ Data Connection

✓ Data Cleaning / Quality Check

Vs Previous Year (PY)

✓ 180 Data Modeling

Vs PY : 2,258 (-20.19%)

✓ Data Processing

✓ DAX Calculations

Top 5 Albums

By Total Album Count

The Beatles

1987

✓ Dashboard Lay outing

✓ Charts Development and Formatting

Abbey Road

1360

The Wall

1139

✓ Dashboard / Report Development

✓ Insights Generation

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

1923

(38.12%)

3121
(61.88%)

Top 5 Artists
By Total Artist Count

The Beatles

12897

John Mayer

6072

Bob Dylan

4344

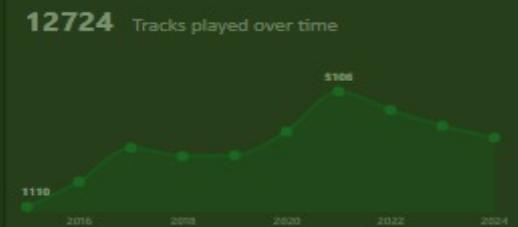
Paul McCartn...

3548

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

6382

(37.15%)

10795
(62.85%)

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



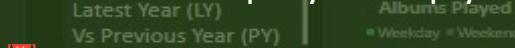
Business Requirement

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.



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 Albums

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:

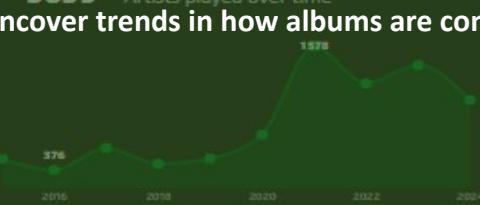
- Trends between Latest Year (LY) and Previous Year (PY)

The Wall 1139
Revolver 982

- Year-over-Year (YoY) growth in album plays

ARTISTS

Artists Played over Time



Artists Played



Latest Year (LY)

Vs Previous Year (PY)

1058

(38.12%)

2024

1923

(31.21%)

2023

1802

(38.26%)

2022

1783

(38.26%)

2021

1763

(38.26%)

2020

1743

(38.26%)

2019

1723

(38.26%)

2018

1703

(38.26%)

2017

1683

(38.26%)

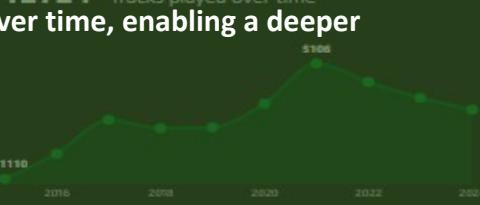
2016

1663

(38.26%)

TRACKS

Tracks Played over Time



Latest Year (LY)

Vs Previous Year (PY)

3508

(PY : 3,916 (-10.42%))

2024

6382

(37.15%)

2023

10795

(62.85%)

2022

16208

(37.15%)

2021

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16208

(37.15%)

1954

16208

(37.15%)

1953

16208

(37.15%)

1952

16208



Select Stream

mac web player windows

Is Shuffled? All

Is Skipped? All

Business Requirements

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:

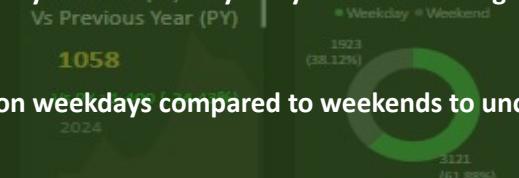
- Latest Year (LY) vs Previous Year (PY) performance

The Wall 1139

Revolver 907

ARTISTS

3835 Artists played over time



Top 5 Artists

By Total Artist Count

The Beatles 12897

Past Masters 1627

The Killers 6072

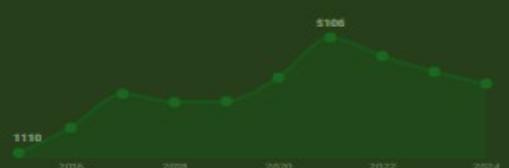
John Mayer 4344

Bob Dylan 3548

Paul McCartney 2593

TRACKS

12724 Tracks played over time



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 Format
mac web player windows

Is Shuffled? All Is Skipped? All

Business Requirements

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

ARTISTS

3835 Artists played over time

July

17

Yearly Artist Breakdown

Vs Previous Year (PY)

Latest Year (LY)

Vs Previous Year (PY)

Artists Played

Yearly Artist Breakdown

Vs Previous Year (PY)

Latest Year (LY)

Vs Previous Year (PY)

Tracks Played

Yearly Track Breakdown

Vs Previous Year (PY)

Latest Year (LY)

Vs Previous Year (PY)

Top 5 Artists



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



Business Requirement

LISTENING PATTERNS

Peak Listening Time Visualization

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Select Platform

android

ios

mac

windows

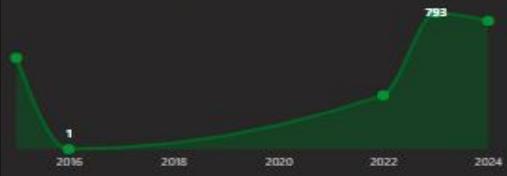
Is Shuffled?

True

Is Skipped?

True

ALBUMS

1620 Albums played over timeLatest Year (LY)
Vs Previous Year (PY)**747**

Vs PY : 793 (-5.80%)

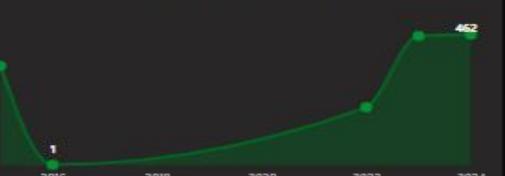
2024

Albums Played
● Weekday ● Weekend**Top 5 Albums**

By Total Album Count

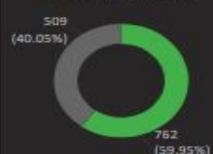
The Beatles	49
Past Masters	48
Ultimate Sina...	37
TÚ Y Yo	36
Abbey Road	35

ARTISTS

933 Artists played over timeLatest Year (LY)
Vs Previous Year (PY)**462**

Vs PY : 457 (1.09%)

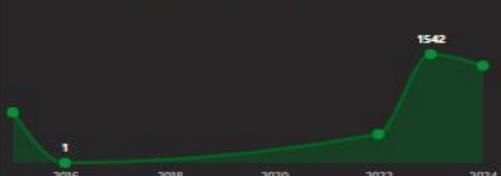
2024

Artists Played
● Weekday ● Weekend**Top 5 Artists**

By Total Artist Count

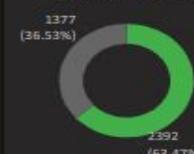
The Beatles	352
The Killers	167
Bob Dylan	140
John Mayer	134
Led Zeppelin	111

TRACKS

3083 Tracks played over timeLatest Year (LY)
Vs Previous Year (PY)**1380**

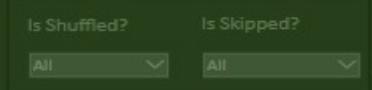
Vs PY : 1,542 (-10.51%)

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



Spotify Listening Behavior Report

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

Behavioral Overview

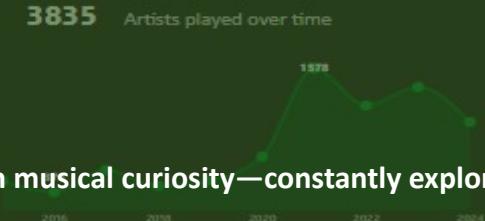
- Users who shuffle and skip tracks show high musical curiosity—constantly exploring, but selective about what they stick with.
- Despite this, 3083 tracks were still played—showing that even picky listeners engage meaningfully with content.
- A clear surge in listening from 2022 to 2023, followed by a slight drop in 2024:

Trend Signals

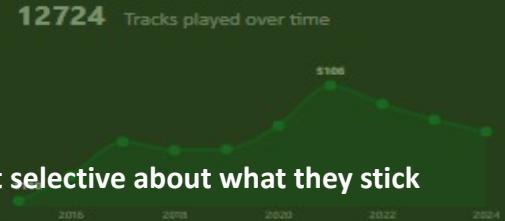
2024



3835 Artists played over time



12724 Tracks played over time



Top 5 Albums

By Total Album Count

The Beatles



Album listening decreased by 5.80%

Abbey Road



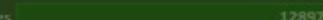
However, Artist discovery increased by 1.09%

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

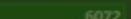
Top 5 Artists

By Total Artist Count

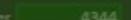
The Beatles



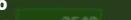
The Killers



John Mayer



Bob Dylan



Paul McCartney



Top 5 Tracks

By Total Track Count

Ode To The ...



In the Blood



Dying Breed



19 Dias y 500...



Concerning H...



For What It's ...





Select Format: Is Shuffled? Is Skipped?

Spotify

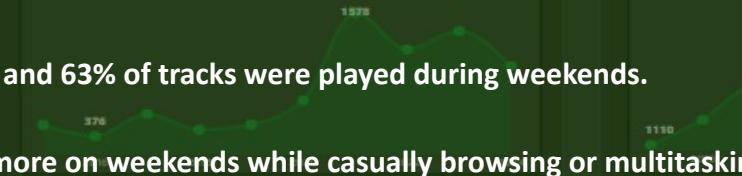
ALBUMS Timing Insights

- Weekends dominate listening behavior:



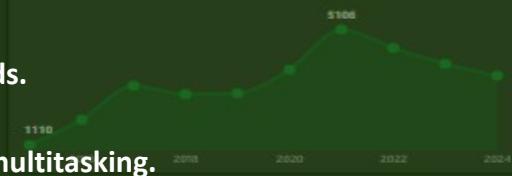
ARTISTS

3835 Artists played over time



TRACKS

12724 Tracks played over time



Loyalty vs Experimentation

- The Beatles emerge as the undisputed favorite, dominating top albums *and* top artists.



Latest Year (LY)
Vs Previous Year (PY)

1058

Vs PY : 1.00 (+1.43%)

Artists Played

Weekday: 1923 (38.12%)

Weekend: 3121 (61.88%)



Latest Year (LY)
Vs Previous Year (PY)

3508

Vs PY : 3,916 (-10.42%)

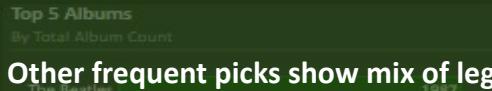
Tracks Played

Weekday: 6382 (37.15%)

Weekend: 10795 (62.85%)



- 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.



Select Format: mac web player windows

Is Shuffled? All Is Skipped? All

🧠 Smart Listener Segmentation

7383 Albums played over time

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

1802



🧭 Strategic Takeaways

1. Focus weekend marketing on curated shuffle playlists with sticky content—listeners are most active but indecisive.

Top 5 Albums

By Total Album Count

The Beatles

1987

Top 5 Artists

By Total Artist Count

The Beatles

12897

2. Introduce dynamic playlist reshuffling—to combat skip fatigue while still supporting exploration.

Abbey Road

1360

The Wall

1139

Revolver

982

The Killers

6072

John Mayer

4344

Bob Dylan

3548

Paul McCartney

2593

TRACKS

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Latest Year (LY) Vs Previous Year (PY)

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Vs PY : 3,916 (-10.42%)

2024



Top 5 Tracks

By Total Track Count

Ode To The ...

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Dying Breed

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19 Dias y 500...

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Concerning H...

138

For What It's ...

138



Select Platform

android

cast to device

iOS

mac

windows

Year

All

Is Shuffled?

True

Is Skipped?

False

Listening Hours Vs Days

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0								2988
1								2829
2								2861
3								2910
4								2557
5								2727
6								2825
7								2021
8								1278
9								1007
10								696
11								481
12								424
13								822
14								1221
15								1461
16								2285
17								2521
18								2540
19								2533
20								2923
21								2790
22								2585
23								2921

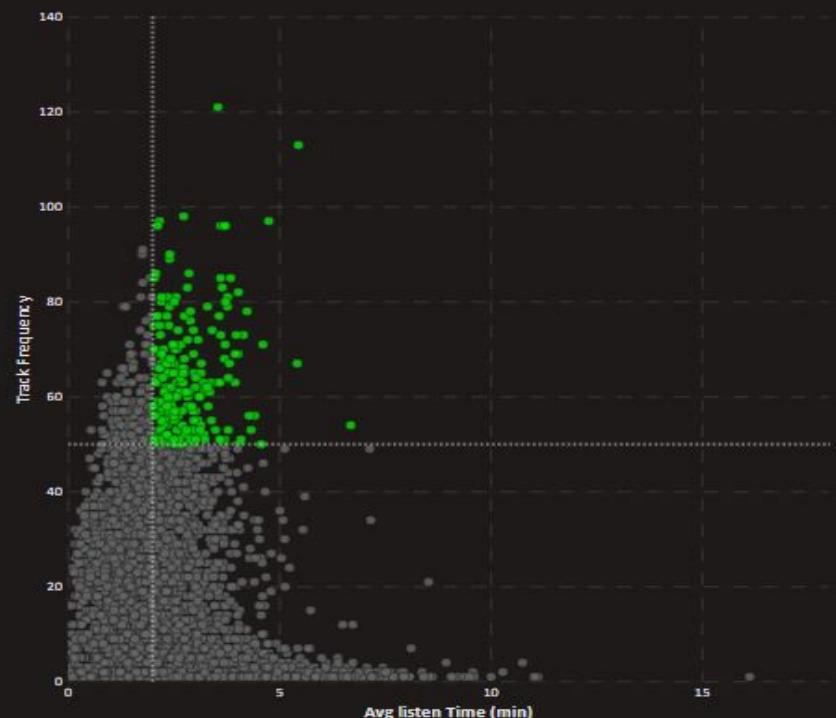
Avg Listening Time (Min) Vs Track Frequency

Listening Time (min)

2

Track Frequency

50





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.



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.*