

Decoding Music Listening Patterns

A Deep Dive into Spotify Album, Artist, and Track Data

For Product Managers, Data Analysts, and Stakeholders

Presentation Roadmap

This presentation outlines our comprehensive Spotify data analysis project, from initial requirements to actionable insights.

1 Project Steps

Our systematic approach from data collection to dashboard delivery.

2 Business Requirements

Key questions driving our analysis across Albums, Artists, & Tracks.

3 Listening Patterns

Uncovering user engagement with heatmaps and quadrant analysis.

4 Key Features

Exploring the interactive functionalities of our dashboard solution.

5 Insights & Next Steps

Strategic takeaways and future recommendations.

Our Project Journey: From Raw Data to Insights

Developing a robust data solution requires a structured approach. Here's how we transformed raw Spotify data into actionable intelligence.

Requirement Gathering

Defining business needs and key performance indicators.

Data Walkthrough & Connection

Understanding source data and establishing secure connections to the Spotify API.

Data Cleaning & Quality

Ensuring accuracy and consistency for reliable analysis.

Data Modeling & Processing

Structuring data for optimal query performance and analytical depth.

DAX Calculations & Dashboarding

Developing custom metrics and designing intuitive visualizations for stakeholders.



Understanding User Engagement: Albums

In today's digital music era, understanding listening patterns is crucial for both users and streaming platforms. This analysis focuses on Spotify Albums Data, providing insights into user engagement with albums over time.

- **Total Albums Played Over Time:** Track how album listening trends change over months and years.
- **Number of Albums Listened by Year:** Identify annual listening habits and volume (Min/Max).
- **Albums Played on Weekday & Weekend:** Identify the pattern of music listening on weekdays and weekends.
- **Top 5 Albums:** Identify the most played albums based on listening frequency.

Latest Year vs Previous Year Analysis: Compare album consumption, including Year-over-Year (YoY) Growth.



Artist Engagement: A Closer Look

Beyond individual albums, understanding how users interact with artists provides deeper insights into loyalty and discovery.

Listening Trends Over Time

Total artists played across months and years.

Annual Artist Diversity

Number of artists listened to by year (Min/Max).

Weekday vs. Weekend Patterns

Identifying when users engage most with artists.

Top 5 Artists

Most frequently played artists based on listening frequency.

We also conduct **Latest Year vs Previous Year Analysis** to compare artist engagement and identify Year-over-Year (YoY) Growth Trends.

Track-Level Insights: The Granular View

Analyzing individual tracks helps us identify hit songs, understand user preferences, and optimize content curation.

- **Total Tracks Played Over Time:** Monitor how track listening trends change across months and years.
- **Number of Tracks Listened by Year:** Identify annual listening habits and track diversity (Min/Max).
- **Tracks Played on Weekday & Weekend:** Identify the pattern of music listening on weekdays and weekends.
- **Top 5 Tracks:** Identify the most played tracks based on listening frequency.

Latest Year vs Previous Year Analysis: Compare track engagement, including Year-over-Year (YoY) Growth Analysis.

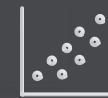
Uncovering Core Listening Patterns

Beyond simple counts, we visualize how users engage with music throughout their day and identify the true "sticky" content.



Listening Hours Analysis

Utilize a **Heat Map** to visualize peak listening times across hours and days, revealing strong patterns with color intensity. This helps optimize content releases.

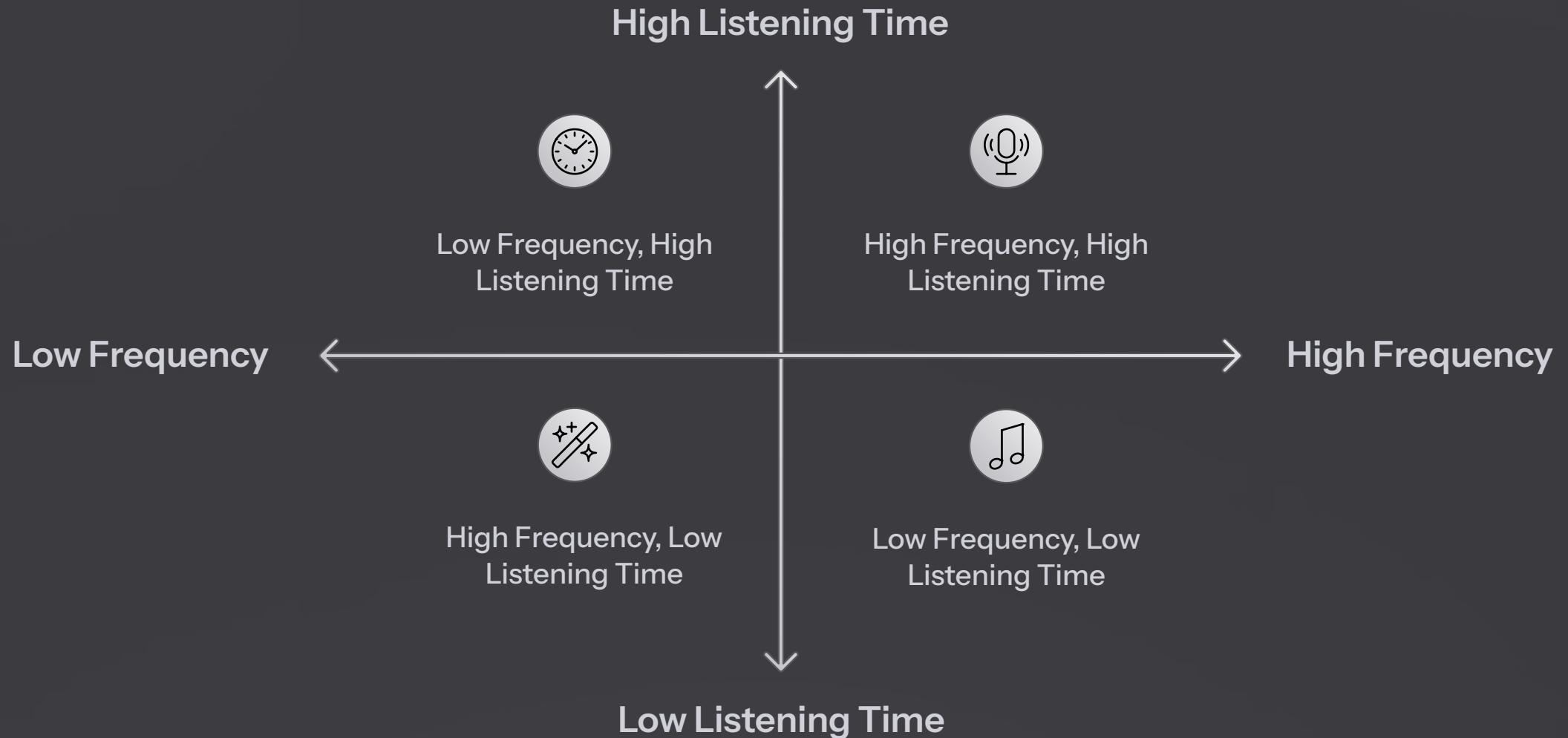


Average Listening Time vs. Track Frequency

A **Scatter Plot with Quadrant Analysis** categorizes tracks, highlighting engaging, niche, and frequently played tracks based on their listening time and frequency.

Quadrant Analysis: Deeper Track Insights

Our scatter plot analysis organizes tracks into four key categories based on user engagement.



- **High Frequency & High Listening Time:** Our most engaging and popular tracks, key for retention.
- **Low Frequency & High Listening Time:** Niche but impactful tracks with dedicated listeners.
- **High Frequency & Low Listening Time:** Short & frequently played tracks, ideal for quick engagement.
- **Low Frequency & Low Listening Time:** Less popular tracks, which may indicate areas for content optimization.

Key Dashboard Functionalities

Our interactive dashboard is designed for intuitive data exploration and actionable insights.

1

Grid View with Essential Fields

Critical data points presented in a structured view for quick overview.

2

Drill-Through Functionality

Explore underlying data for detailed insights, with exportable CSV options.

3

Drill Down, Drill Up, & Hierarchy

Support for hierarchical navigation for in-depth data exploration across dimensions.



Artist Name	Album	Uptodate	Current	Ticks	Sales	Time	
Jak Arter	Bearflies	Jectus	Usas	Strous	Ollay 50	34.50	
Jak Arter	BabyWest	Jectus	Usas	Strous	Nemus	Ollay 4	Others
Sak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 3	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 0	Others
Ack Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 2	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 0	Others
Alik Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 0	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 6	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 0	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 0	Others
Jak Arter	Bearflies	Jectus	Usas	Strous	Nemus	Ollay 4	Others



What's Next for Spotify Analytics?

Key Takeaways

- **Data-Driven Strategy:** Our dashboard provides the foundation for informed decisions on content strategy and user engagement.
- **Actionable Insights:** From peak listening times to track categorization, the analysis highlights clear areas for optimization.
- **Enhanced User Experience:** Understanding consumption patterns allows for more personalized recommendations and a richer platform experience.

Next Steps

- **Dashboard Rollout:** Integrate the dashboard into daily workflows for product teams.
- **Feature Expansion:** Explore incorporating real-time data streams and predictive analytics.
- **User Feedback Loop:** Gather insights from product managers and analysts to iterate and enhance the tool.

Thank You! Questions?