KKBOX AI Playlist Usage Insights and New Positioning

December, 24, 2025

KKBOX

AGENDA

Executive Abstract

Goal	Improve **Collection Rate (CR)** and **Return Rate (RR)**, which are used to measure satisfaction.		
Expected result	Improve user satisfaction	Explore new application scenarios	
Current	There is a gap in understanding between the AI and the user's prompts, causing users to feel that the playlist content does not meet their expectations. Users lack the motivation to save and reuse AI playlists, leading to low save and return rates.		
Analyze Direction	Based on system context and user behavior, explores the use of Prompt tags and semantic analysis.		
Pain Point	Users aren’t good at inputting structured commands and natural language descriptions	Users use AI playlist as general search function	
Solution	Guided Prompt	AI music consultant	AI community

Collection rate = Number of sessions with conversions / Total number of sessions; Return rate = (Users with Distinct day > 1) / Total number of users with unique AI-recommended playlists. *A session is counted as one session if used within 45 minutes.

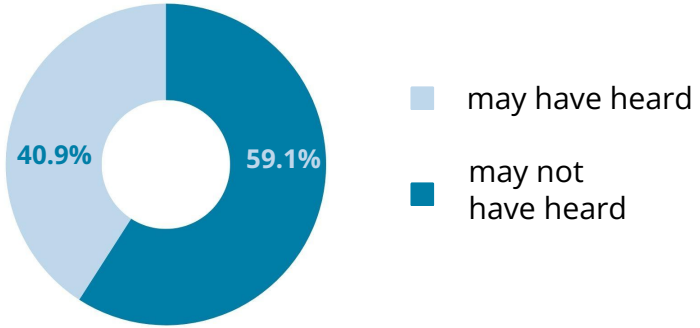
02 Current Status

AI-generated playlist does not meet user expectationsThe key is to balance personalized recommendations with new song discovery.

User Journey	Current	Data support
During	AI-Prompt: Understanding the Gap	a gap of 1.24 for songs matching needs a gap of 1.07 for songs matching musical styles
		Average collection rate: 20.50%
After	The playlist did not meet expectations	The reflux rate was only 17.1%.

59.1% of users want more unfamiliar songs recommended

Q. Would you prefer playlist includes songs you haven't heard before or songs you might have heard?



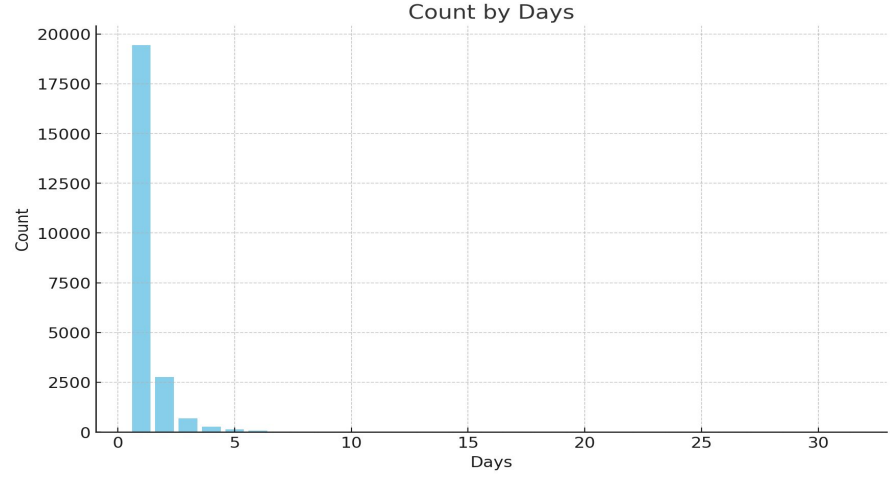
User needs It must be based on my profile (personalized), and also provide songs that I wouldn't normally actively search for (surprise discovery)

03 User Segmentation

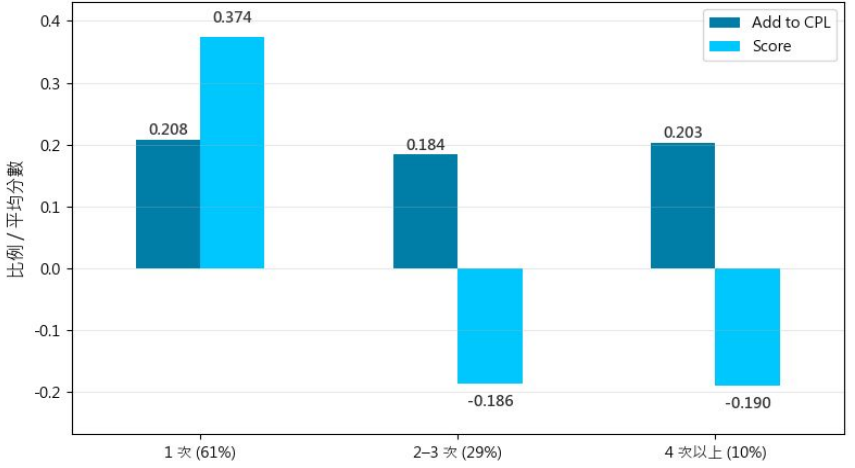
High interaction failed to generate satisfaction, indicating highly differentiated user needs

- Users lack motivation to return: 82.9% of users used it only once, 11.8% used it twice, and only 5.3% used it more than twice. The average satisfaction score for AI Search was negative, indicating that AI playlists are unlikely to establish a sustained willingness to use them.
- Deeper interaction diminishes the experience: Negative reviews accounted for 54.8%; and the collection rate decreased with increased interaction.

AI playlist usage days

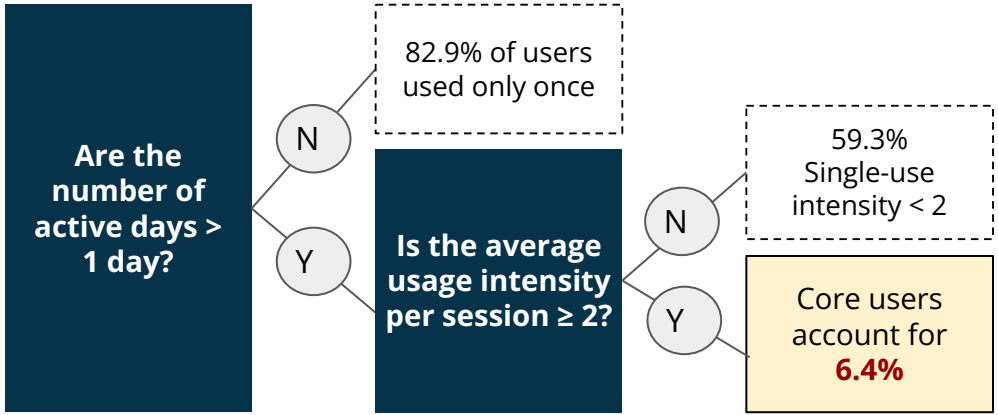


Consecutive usage count and adding to playlist

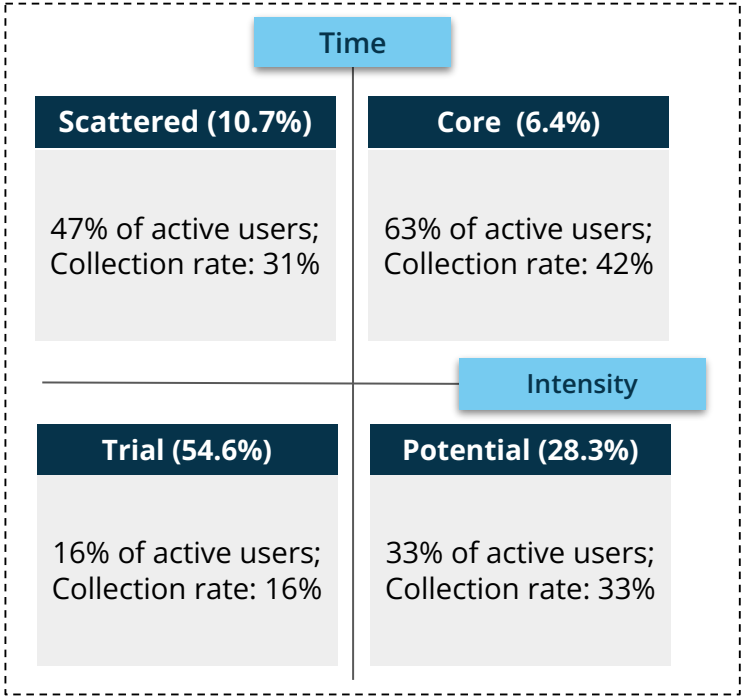


Users were segmented by Time x Interaction intensity to explore behavioral characteristics and differences.

Spindle Based on their level of engagement, Established using "time dimension" and "intensity of single interaction"

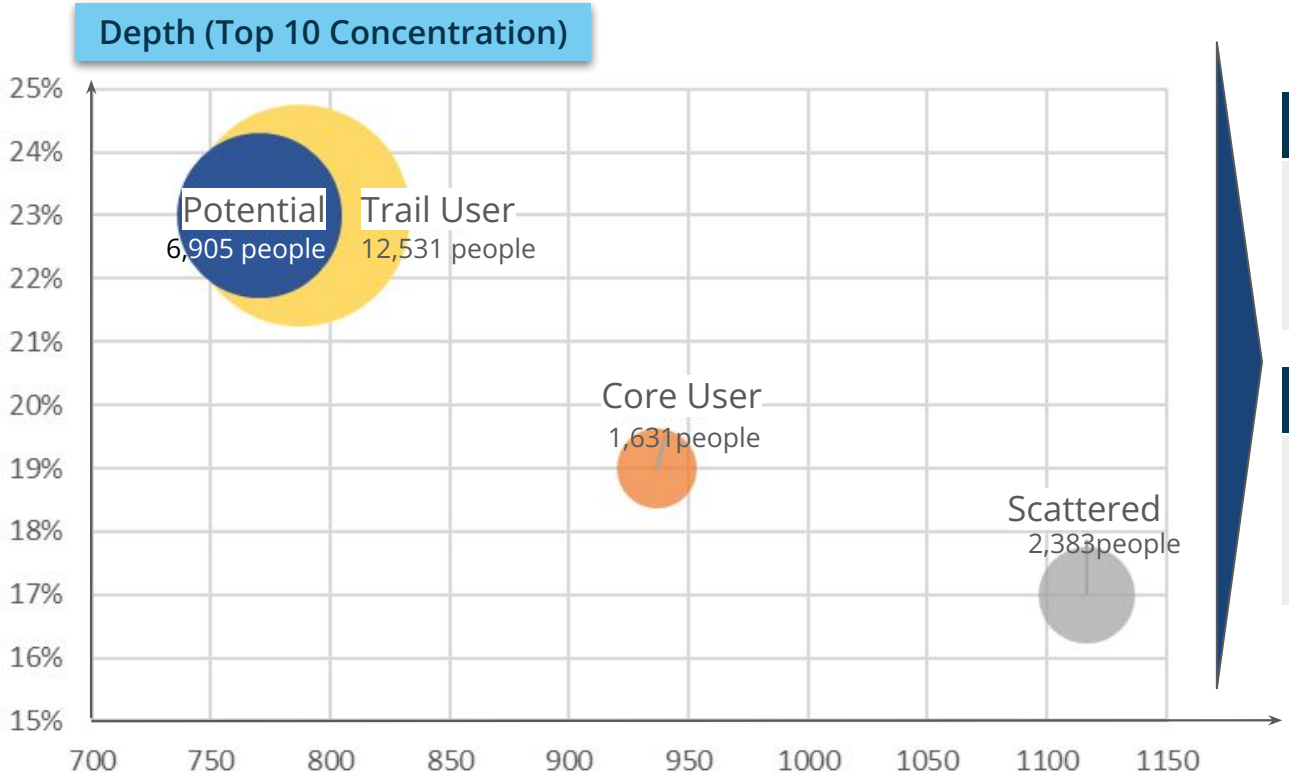


Index	Definition	Type
Distinct days	Number of active days	・2 days or more ・1 day
Intensity	prompt_count / session_count	・≥ 2 ・Less than 2



有效用戶 = 曾有做過收藏的用戶; 收藏率 = 有轉換的 Session 個數 / 所有的 Session 個數（ *Session為 45 分鐘內使用算一次）

Core and Scattered users enjoy exploration; Potential and Trail users prefer personalized recommendations.



Potential and Trail users

Large user base, high concentration, and low breadth of preferences
>>Preferred Personalized

Core and Scattered users

Few users, low concentration, high breadth of listening preferences
>> Preferred Exploration

Top 10 集中度 = 最常聽的前10首歌的總播放次數/ 用戶總播放次數 | 歌曲多樣性 = COUNT(DISTINCT song_id)

03 Focused Analysis

Analyzing Prompt behavior from both the system and user perspectives addresses the core pain point

User Journey

- **Before**
  - Discover features
- **During**
  - Prompt
  - Get playlist
  - Evaluate
  - Collect playlist
- **After**
  - Satisfying
  - Reuse

Using CR and RR as evaluation indicators

Systems Understanding Perspective: Observing AI based on contextual classification using Prompt tag

Others | Specific | Vague

- Specific and Vague categories accounted for 81.26%;
- clear categories had a high collection rate.

User's Perspective: Semantic analysis to understand users' habits in using functions.

Single Kewords | Structured tags | Nature Language

- Single-keyword analysis accounted for 41.3%
- AI struggles to demonstrate its recommendation advantages.

AI is better able to understand structured semantics.

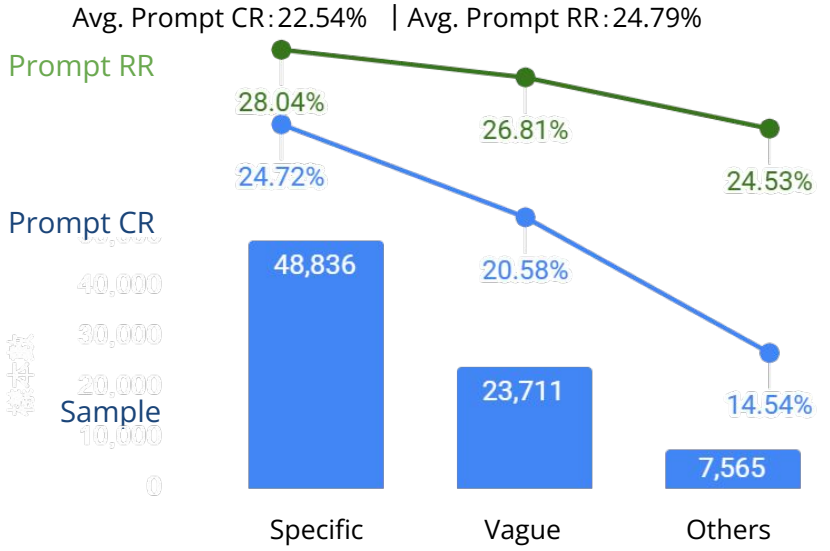
Users treat AI playlists like search, **missing the AI's unique value**

Vague prompts hinder AI comprehension; structured semantics accurately map music features, boosting retention and return rates

Prompt Classification: By Search Context

cat.	Directions	Ex.
Specific	• System-defined tags enable direct AI retrieval • High CR & RR indicate that AI excels at processing it	Artist, Musical style, Region
Vague	• Absence of system-defined tags prevents direct search retrieval	Mood, Situation, Movie, Drama
Neutral	• with a small sample size and low levels of CR & RR	others

Summary of analysis results



Problem summary

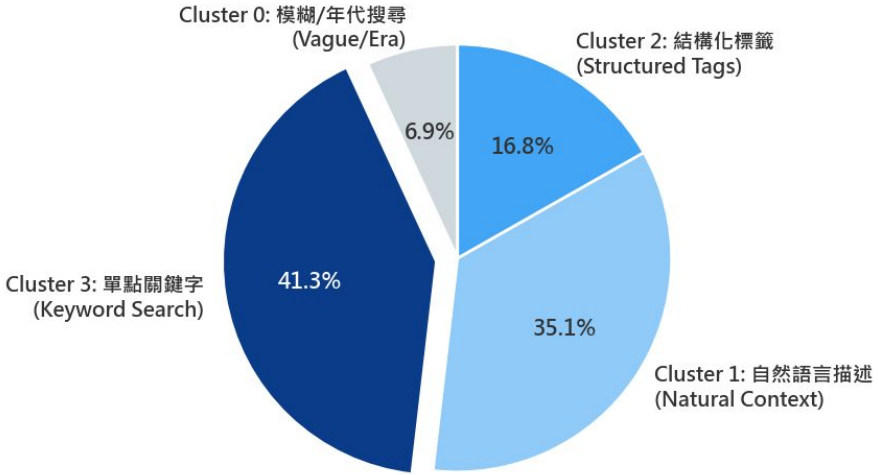
- Structured prompts drive higher retention by aligning better with music features
- Structured semantics map directly to music features, driving higher RR and CR

SBERT and K-Means clustering reveal that users predominantly input single-keyword prompts

Analysis process

- Data Cleaning: Filtered out system suggestions, leaving 45,583 organic user prompts.
- Vectorization (SBERT): Converted prompts into semantic vectors to capture contextual info.
- K-Means Clustering: Categorized inputs into four types
- Analysis: Named clusters and analyzed save rates vs. word counts to derive actionable insights.

User percentage by behavioral pattern



Scale and usage of each behavior

Cluster 0: Vague

「90s」、「以前的歌」、「懷舊」

N = 3,143

Cluster 1: Natural Context

「想聽輕鬆英文歌來讀書」、「運動時節奏不要太快」

N = 15,980

Cluster 2: Structured Tags

「輕快｜英文｜女生 vocal」

N = 7,648

Cluster 3: Keyword Search

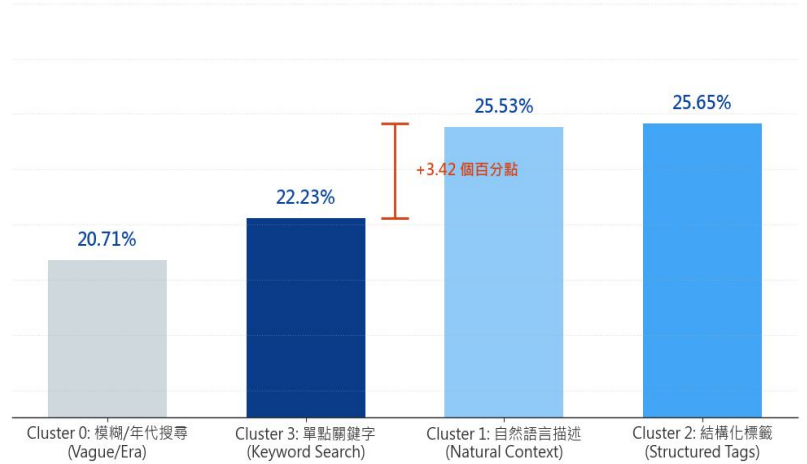
「周杰倫」、「搖滾」、「安靜」

N = 18,812

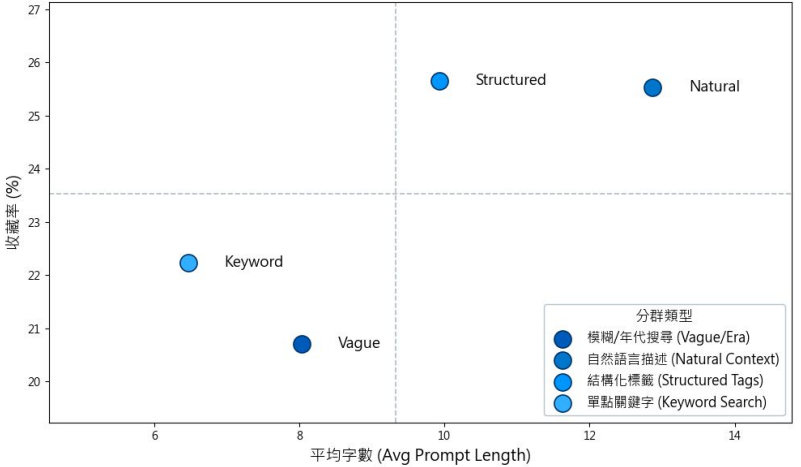
Method: SBERT semantic vectors + K-Means clustering (n = 45,583)

Natural Context and Structured Tags provide clearer context, enabling AI to deliver more relevant recommendations

Structured tags have the highest CR



Keywords and word count affect bookmarking



Most users treat AI playlists as a 'smarter search bar,' obscuring the feature's true value

User Thought

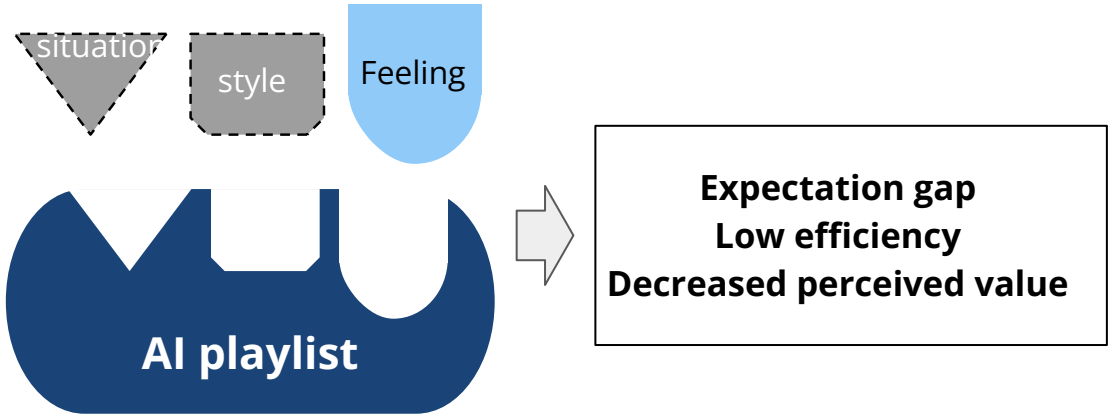
Shorter is better
Single keyword
Fast result return

VS.

What AI Needs

The more complete the context and preferences, the better the recommendation.

User behavior differs from AI requirements



The core issue isn't AI performance, but user behavior failing to align with Generative AI best practices.

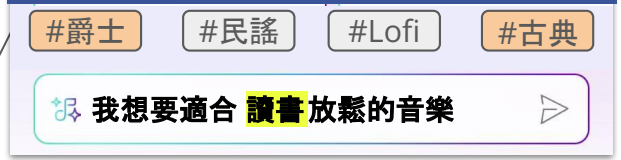
04 Solution I:
Import Guided Prompt Interface

Guided Prompting: Use 'Genre + Personalized Hashtags' and dynamic filtering to improve input accuracy.

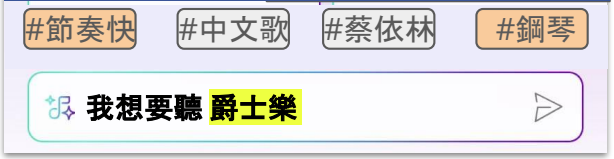
'Genre + Personalized Hashtags' and dynamic filtering

- Focusing hashtags on genres to address user pain points, displaying only sub-tags
- Apply dynamic filtering based on initial prompts to show only highly relevant options

Default interface



If musical style is mentioned



Recommendation logic

Default Interface:
4*Music Genres
+ 2*Personal Recommendations

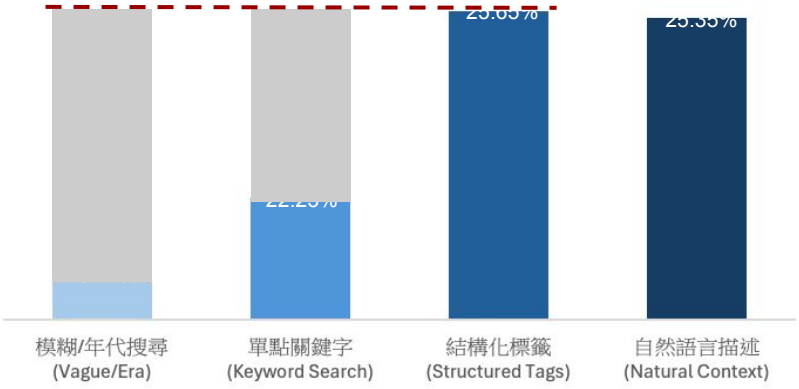
If the music genre is mentioned:
6*Personal recommendations

Interaction: Auto-display hashtags based on input after a 600ms debounce.

If vague prompts matched the save and retention rates of clear inputs, it would yield 972 extra saves (+5.7%) and 285 extra returns (+1.4%), boosting accuracy and satisfaction.

By using a guided Prompt interface, structured usage behavior is encouraged, increasing CR

CR of each prompt behavior pattern



Structured tags yield the highest save rates, while vague and single-keyword inputs show the largest performance gap

Through guided prompting, we aim to elevate the save rates of 'vague/era search' and 'single-keyword' inputs to the level of 'structured tags'

It is expected to increase the total number of collections to

11,674 collection

The total number of songs in the collection is expected to increase to

1.89 million songs

04 Solution II:
KKBOX AI New Positioning

Transforming the feature to fully leverage AI potential and pivot user habits towards AI-native behaviors

Strategic goals and execution entry points

- Introduce new AI scenarios to gradually pivot user habits, evolving AI from a search tool into an interactive companion
- Leverage existing interactive features—AI Playlists and 'Listen With'—as entry points to strengthen the AI's persona

Transforming AI playlist positioning

AI Music Consultant

Focusing on 'immediacy' and 'personalization' to proactively offer micro-recommendations based on individual traits

Proactive notifications	Close to life	Emotional

'AI Tool' to a 'Music Recommendation Assistant'

Enhancing the favorability and value of AI

AI Music Radio Assistant

Leverage KKBOX's existing social features as entry points to enhance the affinity and perceived value of AI Playlists.

Host	Followers

AI serves as more than just a functional tool; it offers companionship like a friend.

The AI Music Consultant precisely identifies the right timing for music needs, delivering recommendations centered on the individual user

Difference Focusing on 'immediacy' and 'personalization' to proactively offer micro-recommendations based on individual traits, fostering deeper emotional resonance

- **To avoid notification fatigue, the system prioritizes micro-recommendations during peak user activity, reducing cognitive load and mitigating the risk of negative feedback from poor suggestions.**
- **Enhances the 'consultant' persona; this requires strengthening the model's emotional semantic understanding to respond more precisely to user needs.**

AI Advisor Core Functions

Recommend Content	Resource	Example
Context-triggered (immediacy-based)	Link to external resources	Typhoon, rain, and other times
Personalized recommendation (personal feeling)	Detect user activity on the app	Search for songs with vastly different musical styles or Unusual opening late at night

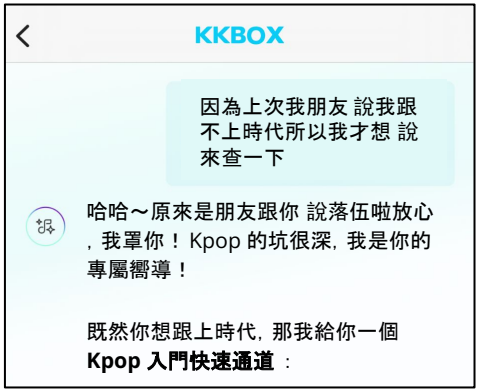
AI Music Consultant Usage Process

Triggered Notifications → **Existing AI playlist Feature Interface** → **Continuous Dialogue**

Real-time context awareness

Provide reasoned recommendations to build trust

Two-way learning



AI Station Assistant: Enhances AI's affinity and value through personalized replies in familiar social settings

Focusing on the KKBOX "Listen With" community

Enhance AI interactivity by leveraging a social-driven approach

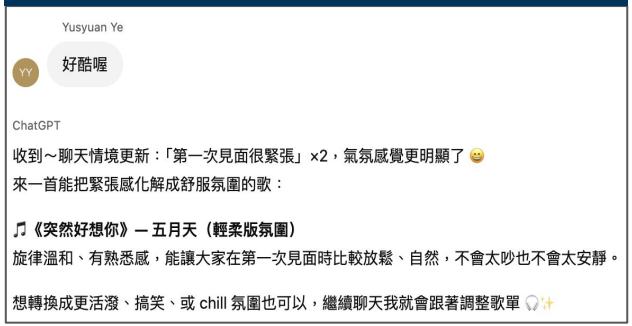
Challenges in establishing an AI-centric social platform

Optimize the existing and familiar 'Listen With' social community

KKBOX's current function

- Low willingness
- Impersonal chatroom

The social potential of AI



- Utilize real-time AI responses to sustain chat momentum

Integrate AI into familiar interactive scenarios to enhance affinity and perceived value

Dual-sided AI Assistance: Lowering barriers for Hosts and fostering companionship for Followers

Feature Design: Integrating AI into "Listen With"	
Host	Lower the barriers to entry and enhance motivation • **The AI suggests 2–3 'next-up' tracks by analyzing attendee requests, chat sentiment, etc.** • **Provides real-time insights for the current track, including song background, lyrical highlights, etc.**
Follower	Fostering companionship to drive retention and user activity • **Respond to user chats in real-time, such as answering questions or welcoming newcomers.** • **Set conditional triggers for AI replies to prevent over-engagement**

'Depth-Oriented' and 'Breadth-Oriented' approaches based on user cluster differences

	Breadth-oriented		Depth-oriented	
	Core User	Scattered User	Trial User	Potential User
AI music consultant	Using a **companion role** to trigger exploratory resonance		A **specialist role** offering expert taste in specific musical genres	
AI Music Radio Assistant	A **'Mood & Scenario' theme** that spans across multiple genres "A pre-sleep chat" or "A focused plan for rainy days"		Showing AI's depth of knowledge through **'genre-themed'** topics "K-POP Night" or "Rap Mania Week"	

05 Summary

From experience optimization to strategic AI repositioning

Solutions \ Pain points	AI - Prompt understanding gap	Using AI as a general search bar	Project Objective: Improve Satisfaction (CR, RR)
Guided Prompt	Assist users in crafting detailed prompts	Move beyond single keywords	Enhance to reach 11,674 collections and reduce one-time churn
KKBOX AI new positi-oning — music consult-ant	Encourage users interact through natural language	Strengthen the "Consultant" persona	Reposition AI to shift user habits, improving response accuracy and DAU (Daily Active Users)
KKBOX AI new positi-oning — Music Radio Assistant	Leverage conversational interfaces to encourage users to interact using natural language	Create emotional bonds and community belonging	

Thank you

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Appendix

01 | User Segmentation EDA

02 | Prompt Analysis

03 | Data Cleaning & EDA

Appendix 01
User Segementation EDA

Overview of User Segmentation Behavior

	Index	Core (6.4%)	Scattered (10.7%)	Potential (28.3%)	Trial (54.6%)
Group Overview	Avg. Single-use Intensity	2.85	1.25	2.86	1.01
	Avg. Collection Rate (CR)	41.7%	31.3%	33.0%	16.5%
	Effective Users (%)	63.3%	47.0%	33.3%	16.6%
	Contribution of CR	10.9%	13.7%	38.2%	37%
First-time user experience	First Stay Time	3.30 mins	0.52 mins	2.67 mins	0.02 mins
	First Use Prompt Count	3.06	1.26	2.88	1.01
	Avg Conversion Rate	39.9%	32.5%	27.6%	16.0%
	Model Response Time (sec)	10,421	10,244	10,516	9,190
	Avg. Song Count	16.75	17.38	16.88	17.52

Effective users = the proportion of users whose collection rate within a specific group is not zero

Top 10 songs played by user segment

Core（1,631people）

Classical, Sleep, Anime Theme Songs

1. 晚安曲(布拉姆斯的搖籃曲) - 21,912 次
2. HOT - 13,955 次
3. 龍貓-選自《龍貓》- 12,892 次
4. 聽見睡眠氛圍(下雨聲) - 12,251 次
5. Golden - 10,971 次
6. 看著我的眼睛說 - 10,180 次
7. Soda Pop - 8,649 次
8. Jumping Machine (跳樓機) - 8,547 次
9. 白噪聲, Pt. 1 - 7,750 次
10. Your Idol - 6,639 次

Potantial（6,905 people）

Popular songs

1. Say Less - 45,333 次
2. Golden - 39,792 次
3. Express Mode - 39,139 次
4. 看著我的眼睛說 - 35,397 次
5. Haircut - 32,846 次
6. Air - 32,836 次
7. Finale - 32,199 次
8. 我們的花語 (Stuck With You) - 32,025 次
9. I Know - 31,832 次
10. Delight - 31,412 次

Scattered（2,383）

Classical, Animation, Children's Songs

1. 布拉姆斯 — 搖籃曲 作品49 第4號 - 26,949 次
2. Golden - 17,264 次
3. 看著我的眼睛說 - 17,182 次
4. 瑟魯之歌 - 15,836 次
5. Jumping Machine (跳樓機) - 11,974 次
6. 沒去過的地方 (Never Been) - 11,853 次
7. Sorry I'm Here For Someone Else - 11,764 次
8. Soda Pop - 11,458 次
9. Express Mode - 11,205 次
10. Baby Shark - 8,113 次

Trail（12,531 people）

Popular songs

1. 看著我的眼睛說 - 82,635 次
2. Golden - 74,931 次
3. Jumping Machine (跳樓機) - 69,897 次
4. Express Mode - 53,300 次
5. Soda Pop - 45,811 次
6. Air - 43,351 次
7. Haircut - 42,715 次
8. 座位 - 41,069 次
9. 沒去過的地方 (Never Been) - 40,813 次
10. I Know - 40,327 次

Detailed information on user segmentation depth and breadth

Segment	User Count	Avg. Play Frequency	Median Play Count	Total Plays	Avg. Different Songs Count	Median Different Songs Count	Avg. Repeat Rate	Avg Single-Track Repeat Count
Scatteres	2383	3399.73	2150.0	8101545	1117.3	732.0	0.43	4.02
Trail	12531	2582.83	1535.0	32365440	787.0	510.0	0.43	4.42
Core	1631	3041.5	1840.0	4960688	937.44	623.0	0.43	3.81
Potential	6905	2467.88	1515.0	17040691	770.24	512.0	0.42	4.32

Appendix 02
Prompt Analysis

Semantic characteristics of high-collection and high-retention prompts: Clear intent and structured semantics.

Prompt_Tag	Prompt CR	Prompt RR	Semantic attributes
純音樂	31.90%	32.91%	明確屬性、AI 易辨識
人聲	29.70%	34.25%	可直接對應資料庫
節奏	26.60%	28.93%	可量化條件
藝人	26.30%	26.40%	強目的導向
排除 （如「不要悲傷的歌」）	26.30%	28.42%	條件式語意明確
語言	26.20%	30.05%	可直接對應分類
地區	25.60%	30.06%	有清楚篩選邏輯
曲風	25.40%	28.49%	主流屬性標籤
年代	24.40%	28.51%	有明確時間範疇

Appendix 03
Data cleaning & EDA

Data Fields Overview

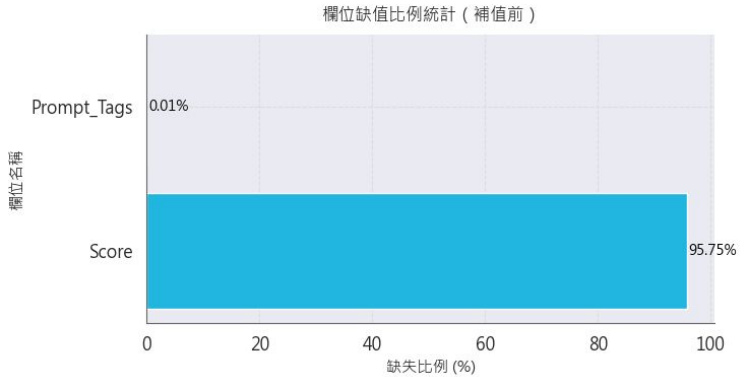
Column Name	ID	Date	Prompt	Response Tags	Prompt Tags	Score	Add to CPL	User	Resonpose Time	Song Count
Description	唯一識別碼	日期與時間	輸入的指令	系統回應的分類標籤	內容的分類標籤	評分，預設為空值	是否新增至個人歌單	編碼過的用戶識別碼	歌單內容時間(毫秒)	歌單中的歌曲數量
Ex.	646377	2025-06-18 00:00:40	歌德重金屬風	AI Search	曲風	1	TRUE	0llctfp8vxaRRy15Aq	9036	10

Data Cleaning

Origin	n = 57990
Pre-processing	Data standerdize and type change
Missing Value Check	Score：95.75%、Prompt_Tags：0.01%
Missing Value Handling	Score padded with zeros、Prompt_Tags retain
Outlier Check	Response_Time range too large (0 milliseconds / >20000 milliseconds) → Reserved

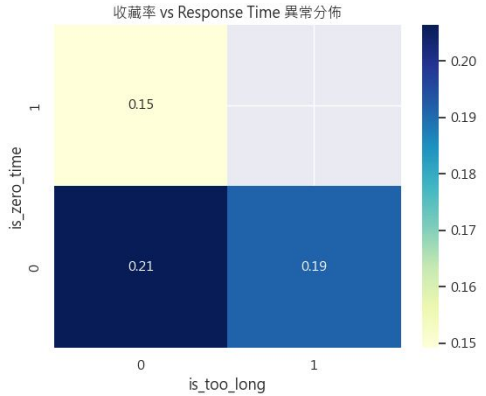
Data Cleaning

Missing Value Check



- Only 3 Prompt_Tags are missing, and this has no impact on other columns.
- Missing Score values are filled with 0.a

Outlier Check



- Response_Time does not affect the collection rate → Retain

An outlier in Response Time is defined as: Time = 0 sec or Time > 20000