Music Recommender System

Suggesting Musical Works to Plarform Users Based on Their Listening History

Minimal Risk | Lim. | High | Unacc.

EU AI Act classification

SYSTEM'S DESCRIPTION

The AI system, developed for music streaming platforms, uses recommendation technologies like collaborative filtering to make musical works suggestions more personalized and engaging for platform users.

The system does not significantly impact the health, safety, or fundamental rights of users or other individuals affected by its recommendations.

EU AI Act

IMPACT ASSESSMENT REPORT

available in multiple formats including Braille

Last update: 20 Feb 2025

BENEFITS

	Platform users	Streaming platform	Institutions and Environment
Improved user satisfaction	■	■	□
Higher retention of users	□	■	□
Expanded audience reach for emerging artists	■	□	■
Localized music promotion for regional markets	□	■	■
Better understanding of audience preferences for strategic decisions	□	■	■

■ benefit enjoyed by

RISKS — MITIGATION STRATEGIES

		Customers	Store	Institutions and Environment
Capability Risks				
Algorithmic bias leading to the underrepresentation of musical works associated with certain cultural or linguistic groups	Conduct community-driven audits where diverse users provide feedback on the inclusivity of recommendations	■	■	■
Sharing user data with third parties	Allow users to opt out of third-party data sharing and provide clear consent options for targeted advertising	■	■	□
Human Interaction Risks				
Users feeling overwhelmed by aggressive recommendations	Give users control over personalization settings	■	□	□
Systemic Impact				
Homogenization of music culture	Incorporate quotas for promoting regional, location-based music content	■	■	■

■ risk faced by

SYSTEM'S DATA

	Potentially employed for future uses	Personally indetifiable information
Essential		
User listening history logs	■	□
User ratings for musical works	■	□
User location data	■	■
Musical work metadata	■	□
Non-essential		
User profile information	■	■

■ yes

PERFORMANCE OF MODELS ON DATA

Data	Model	Version	Metric
User listening history logs	CF[1]-Log	1.4.3	Precision@10 % of songs played by the user among the top 10 recommended songs 88%
User ratings for musical works	CF[1]-Log	1.4.3	Precision@10 % of songs highly rated by the user among the top 10 recommended songs 92%
	MF[2]-SVD	15.1	RMSE Error between predicted and actual user ratings 94%
User location data	LG[3]	1.4.3	Hit Rate % of location-based recommended songs played by the user 87%
Musical work metadata User profile information	TF-IDF -CS[4]	3.0.5	NDCG@10 % of songs in the top 10 recommendations that best match the profile 85%

[1] Collaborative Filtering

[2] Matrix Factorization with Singular Value Decomposition

[3] Logistic Regression

[4] Term Frequency-Inverse Document Frequency with Cosine Similarity

REPORTING RISKS

Helpline: 0XXX XXX XXX
Reporting portal: report-risk@com
Mail: XX Main Street,
XXX-XXX Contry Z

REGISTERED OFFICE

Name of the company
XX Main Street,
XXX-XXX Contry Z

CERTIFICATES

DDEX™ STANDARDISING THE DIGITAL VALUE CHAIN

Media Enrichment and Description Standard for metadata about musical works

GDPR Compliant