

2001 Napster Board Meeting

# Music Matchmaking Using NLP



# 2001

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Napster is Currently The  
Top Music App With Over  
26 Million Users





# What's Next?

We Need To Add New Features to  
Compete With Future Competitors

# Song Recommender

1

## Model Creation

Use song lyrics to create a model that breaks every song into a set of topics

2

## Analyze Playlist

Analyze a user created playlist and calculate the “average” topics

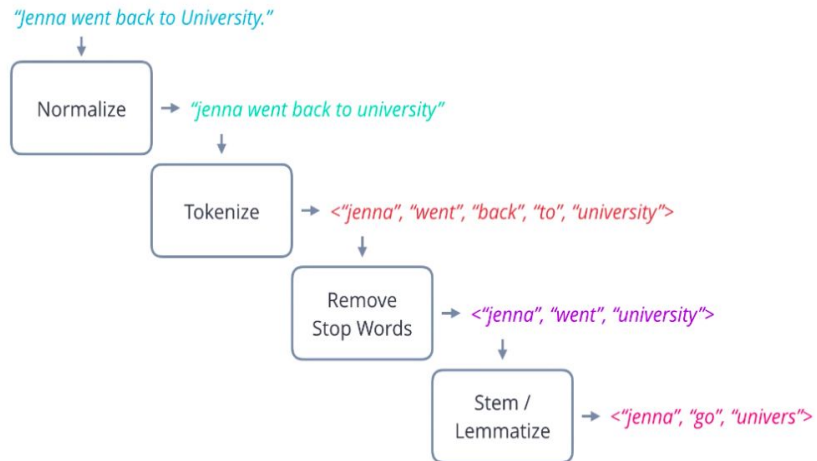
3

## Recommend “Similar” Songs

Use our model to recommend songs that are “close” to the playlist topics

**But How?**

# “Clean” The Lyrics



# Create Count-Vectorizer

## “Bag Of Words”

	Highway	Hell	Hand	Hold
Song 1	6	5	0	0
Song 2	0	0	6	8
Song 3	0	0	0	0

Very Big!



# Not Quite There

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Break Bag of Words Down Into “Topics”



# Document - Topic Matrix

	Topic 1	Topic 2	Topic 3	Topic 4
Song 1	0.467	0.302	0.032	0.025
Song 2	0.055	0.445	0.339	0.002
Song 3	0.252	0.005	0.522	0.016

# In Action

## Playlist

	Topic 1	Topic 2	Topic 3	Topic 4
Song 1	0.467	0.302	0.032	0.025
Song 2	0.055	0.445	0.339	0.002
Song 3	0.252	0.005	0.522	0.016

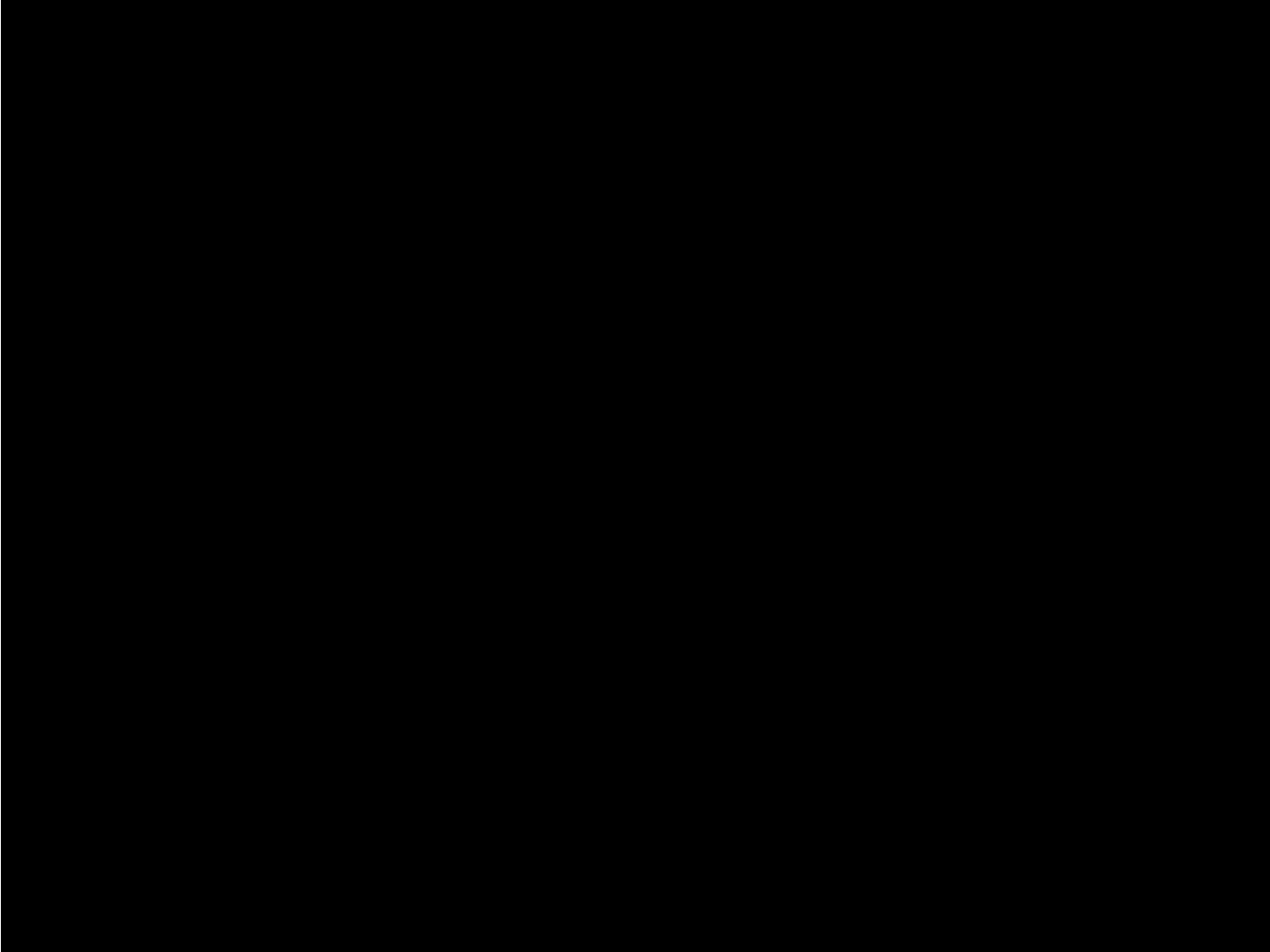
## Average Vector

	Topic 1	Topic 2	Topic 3	Topic 4
Avg	0.258	0.254	0.283	0.012

## Distance

	Distance
Song 1	0.522
Song 2	0.433
Song 3	0.678

**Let's See It Live!**



# Thanks!

Does anyone have any questions?

  
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