MUSIC MENTOR

MemoryLeak

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Outline

- Recommender System
  - Popularity
  - Our motives to choose it
  - Properties of a good recommender system
- About Project
  - Algorithm
  - Technologies
  - Capabilities

Popularity

- Why did we choose it?

Benefits for the user

- Based on real actions
- Great for discovery
- Personalization

For the customer

- Bring Traffic
- Deliver Related Content
- Engage users
- Convert users to customers
- Increase in the time user spent
- Increase average order value
- Reduce workload
- Provide reports

Properties

- Accuracy
- Novelty and Serendipity
- Real-time

MusicMentor Overview

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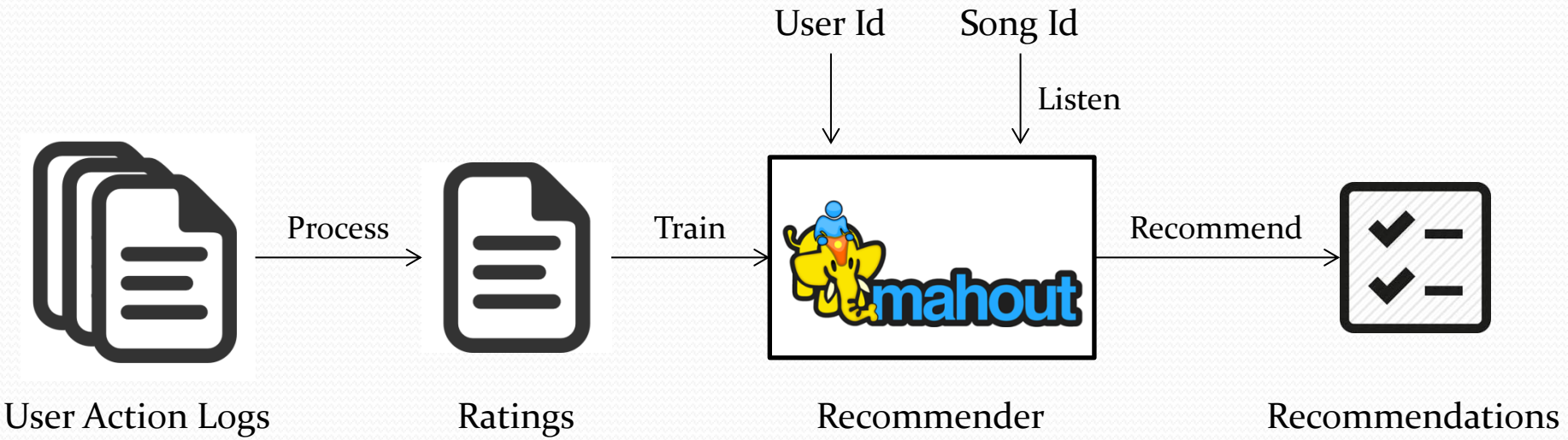

Process Algorithm

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- Eliminate database to speed up processing

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- Generate ratings in three steps:

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- Generate ratings in three steps:
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  - External Sort
  - Apply Math Model
- Feed the recommender

Recommender Algorithm

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- Get user id

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- Get user id
- Calculate similarities

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- Pick most similar users

Recommender Algorithm

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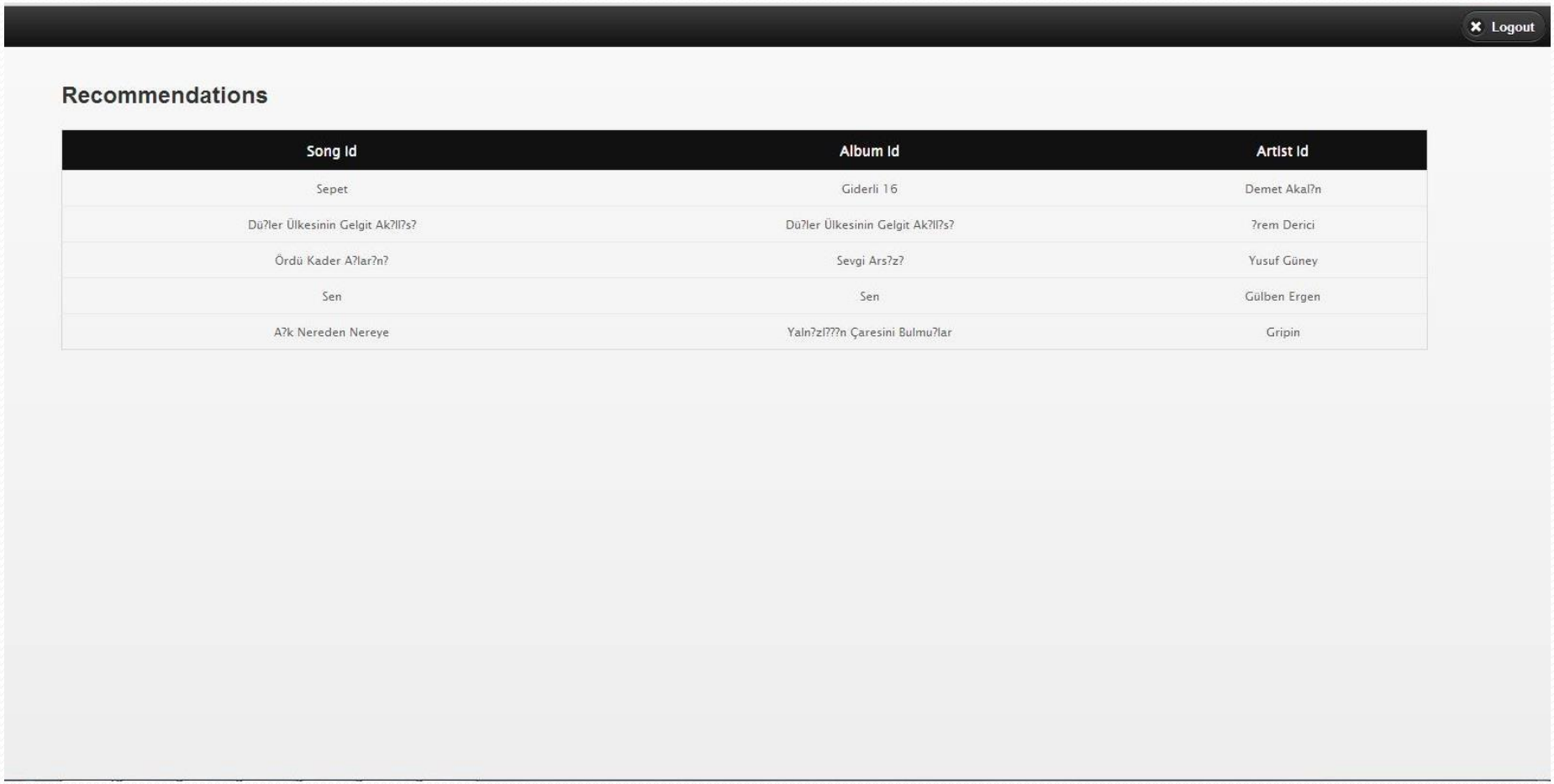
- Sort their songs

Recommender Algorithm

- Get user id
- Calculate similarities
- Pick most similar users
- Sort their songs
- Recommend top songs

Recommender Algorithm



Listen Algorithm

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- Get the user id and the song id

Listen Algorithm

- Get the user id and the song id
- Rate song with maximum points

Listen Algorithm

- Get the user id and the song id
- Rate song with maximum points
- Recommend as before

Listen Algorithm

- Get the user id and the song id
- Rate song with maximum points
- Recommend as before
- Change the rating appropriately

Evaluator

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- Hide some data

Evaluator

- Hide some data
- Train recommender

Evaluator

- Hide some data
- Train recommender
- Recommend songs to users

Evaluator

- Hide some data
- Train recommender
- Recommend songs to users
- Calculate;
  - $Precision = \frac{Recommended\ Items \cap Hidden\ Items}{Recommended\ Items}$
  - $Recall = \frac{Recommended\ Items \cap Hidden\ Items}{Hidden\ Items}$