

# Indexing Music in Movies Using Audio Fingerprinting: An Audioneex Study



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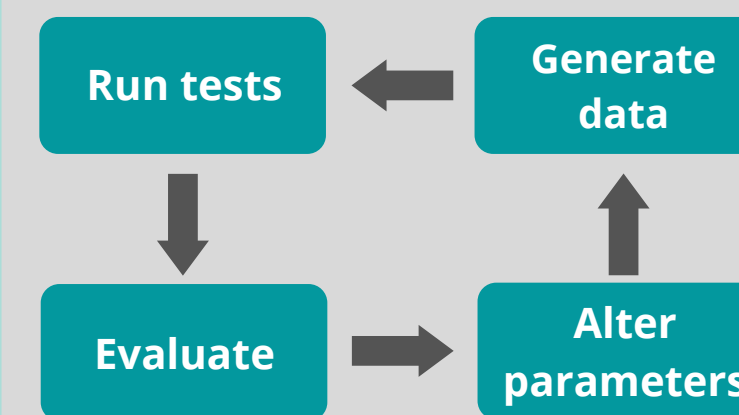
## 1. Background

- Audioneex: An open source audio fingerprinting framework
- It claims to be content-agnostic and robust
- How can music in movies be identified using Audioneex?
  - How does Audioneex perform in practice in music identification in movies?
  - How can parameters be configured to improve Audioneex' performance in terms of the benchmark?

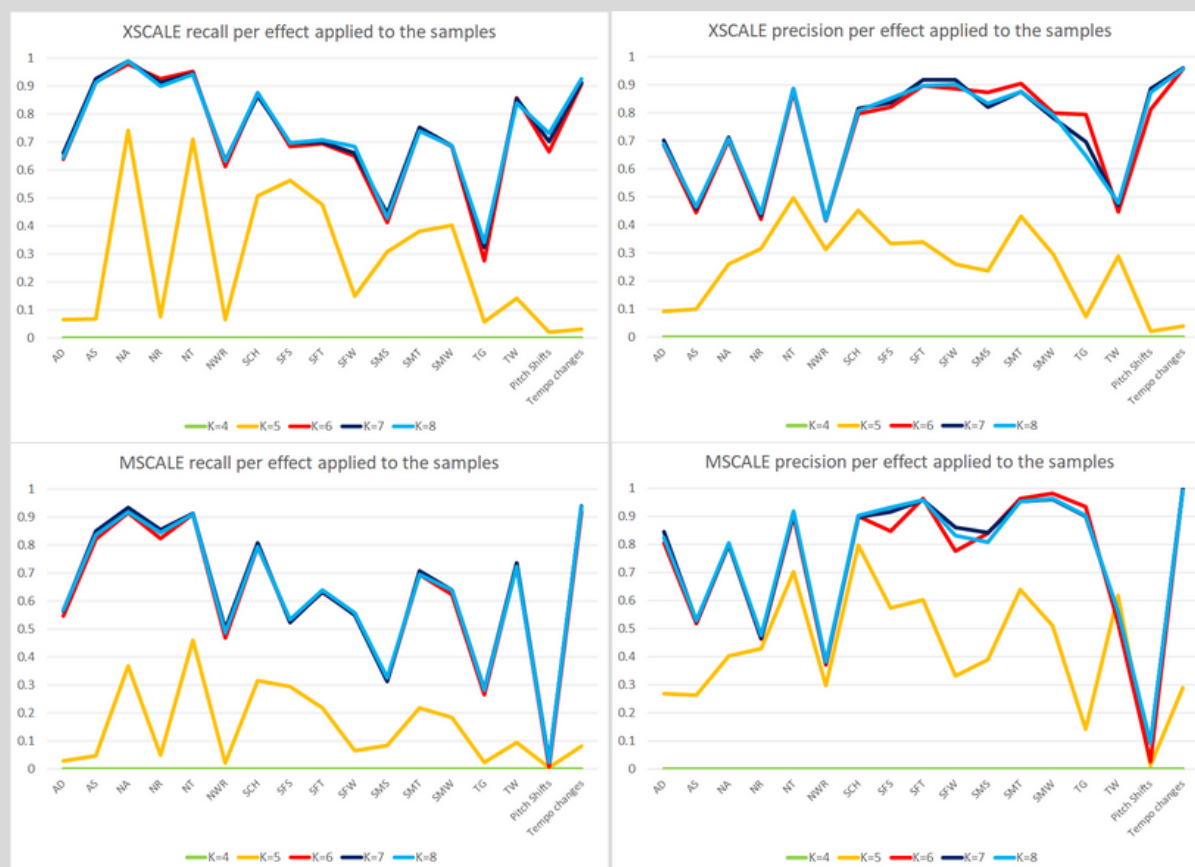
## 2. Parameters

- The parameters that were considered were the sensitivity to frequency peaks, for both the fingerprinting and identifying program, and the matching algorithm type
- Additionally, the difference in sensitivity to frequency peaks in fingerprinting and identifying program was researched
- The results were generated based on the configurations of these parameters
- The best performing configuration was selected and run on actual movie data

## 3. Approach



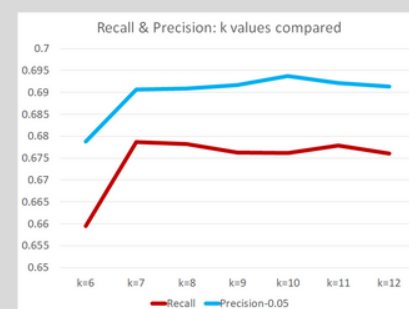
## 4. Results



XSCALE generally performed better in terms of recall, MSCALE in precision

MSCALE performs badly when identifying pitch shifted audio

k=10 was the best value in the selected range for the sensitivity to frequency peaks, for both identifying and fingerprinting programs



## 5. Conclusion

The selected (new) configurations of Audioneex were run against actual movie data. These configurations performed better than the original configurations

	FP	FN	TP
Original XSCALE	11	89	14
New XSCALE	11	88	15
Original MSCALE	9	98	7
New MSCALE	8	97	10

## 6. Limitations

- Only two of many configurable parameters were used
- Of the selected parameters, only a limited range was selected
- Duplicate data songs were detected in a late stage