Joren Six

TARSOS
OUTLINE

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I work together with Olmo Cornelis

- Musicology @ Ghent University
- Composition @ University College Ghent
- PhD @ University College Ghent / Ghent University

His previous project: DEKKMMA

“Digitization of the Ethnomusicological Sound Archive of the Royal Museum for Central Africa”
Digitization of the sound archive:

- **Audio**: 50,000 sound recordings – 3,000 hours of music - 33,000 items digitized.
- **Meta-data**: 35,000 items digitized
- Provides **contextual data**

Development of database and website

Exploration of MIR-techniques.
INTRODUCTION

DATASET
INTRODUCTION

CONTEXT ANALYSIS

Provide access to archives with ethnic music that deal with a large variability of

- musical content,
- users,
- search intentions and expectations.
METHODOLOGY

Develop a method yielding culture independent views on musical parameters by using or adapting existing signal processing MIR-techniques.

A computer scientist was hired (me) to do Computational Ethnomusicology

The project is split according to musical parameters:

- Pitch
- Tempo
- Timbre
An easy to use, open system to extract and explore **pitch organization** in musical audio for scientific, educational and artistic purposes.

**TARSOS**
TARSOS INNER WORKINGS

INPUT

ANALYSIS

Annotation selection

REPRESENTATION

Peak selection

OPTIMIZATION

Auditory feedback

OUTPUT
TARSOS INNER WORKINGS

Number of annotations

Pitch (cent)

4683  5883  7083  $A_4$
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<th>Pitch Class (cent)</th>
<th>Interval (cent)</th>
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CONCLUSIONS

Tarsos delivers:

- Scientific data
  - Historical temperaments.
  - African tone scales are becoming more western like

- Artistic input e.g. experimentation with microtonal compositions.

- Educational opportunities: improve intonation.
Apply the capabilities on our dataset
Tone scale correlation
Start working on tempo and timbre
Combine tempo, timbre and pitch
Audio alone might not be sufficient to describe and/or retrieve ethnic music:

What does it mean to search and retrieve music from a culture where the word “music” exists only in connection to body movement, smell, taste, colour.

The idea of separating sound from the rest of its physical environment (movement, smell, taste, colour) may well be a weird “invention” of the West.

We cannot understand ethnic music correct without its social function and context!