# *The need of a multicultural approach in IT research*

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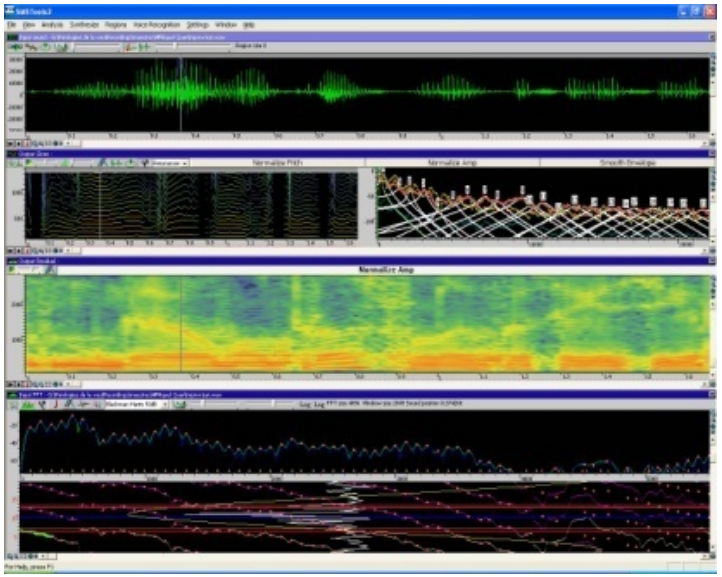
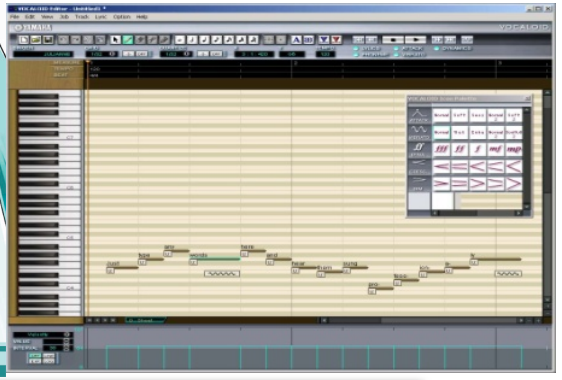
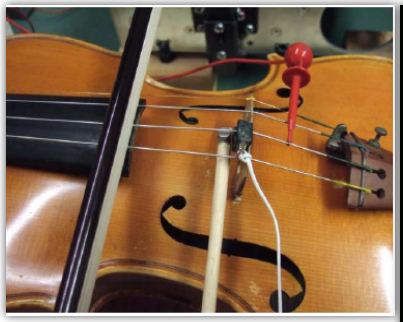
# MTG-Universitat Pompeu Fabra

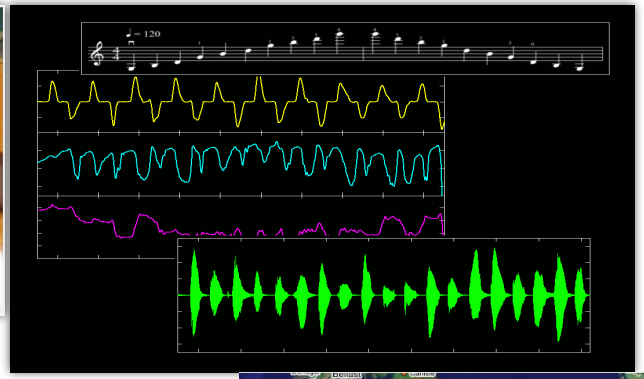
- Research in sound and music computing with a balance between basic and applied research.
- Engineering strengths:
  - Signal Processing
  - Machine Learning
  - Human Computer Interaction
- Research focus:
  - Audio signal processing
  - Sound and music description
  - Musical and advanced interaction
  - Performance modelling
  - **Sound and music communities**

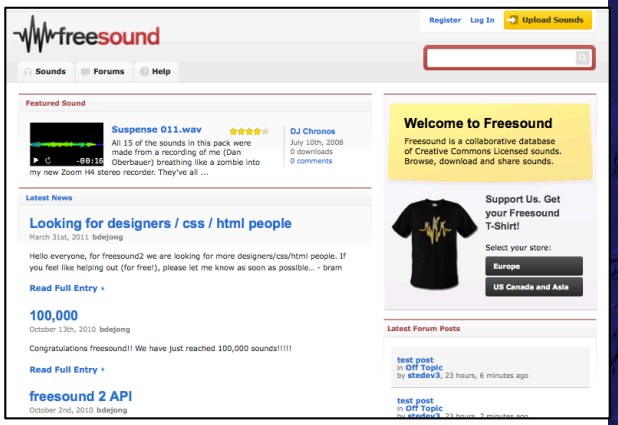
# Research results

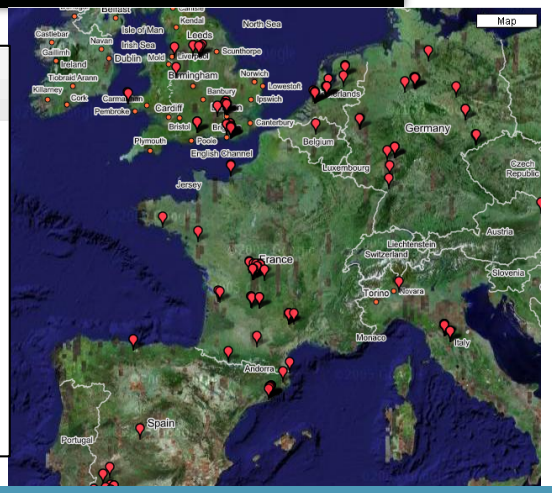






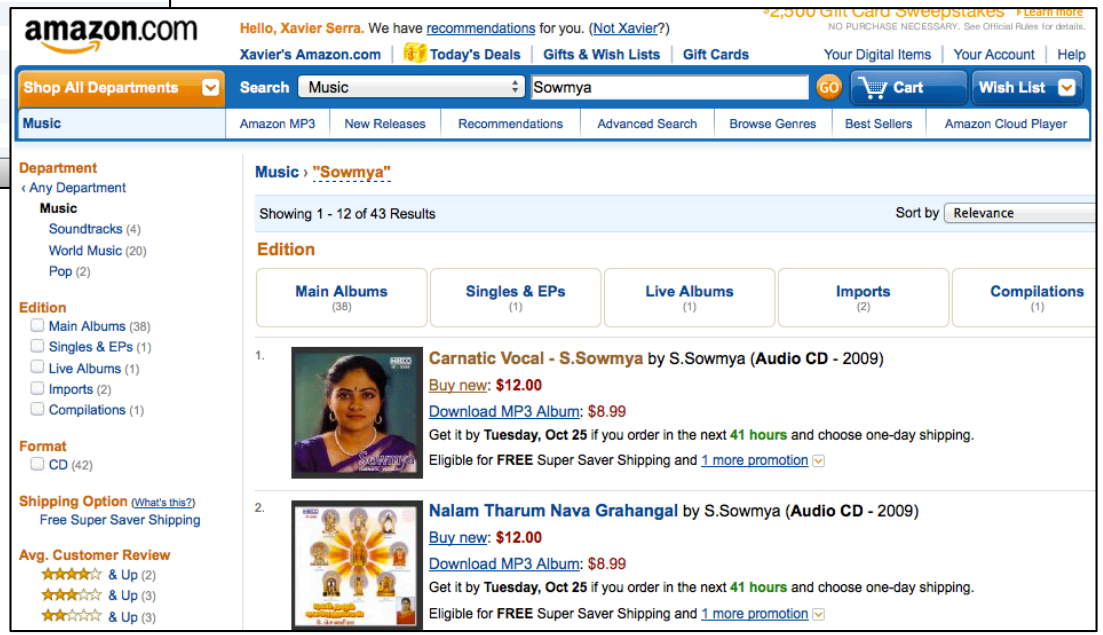


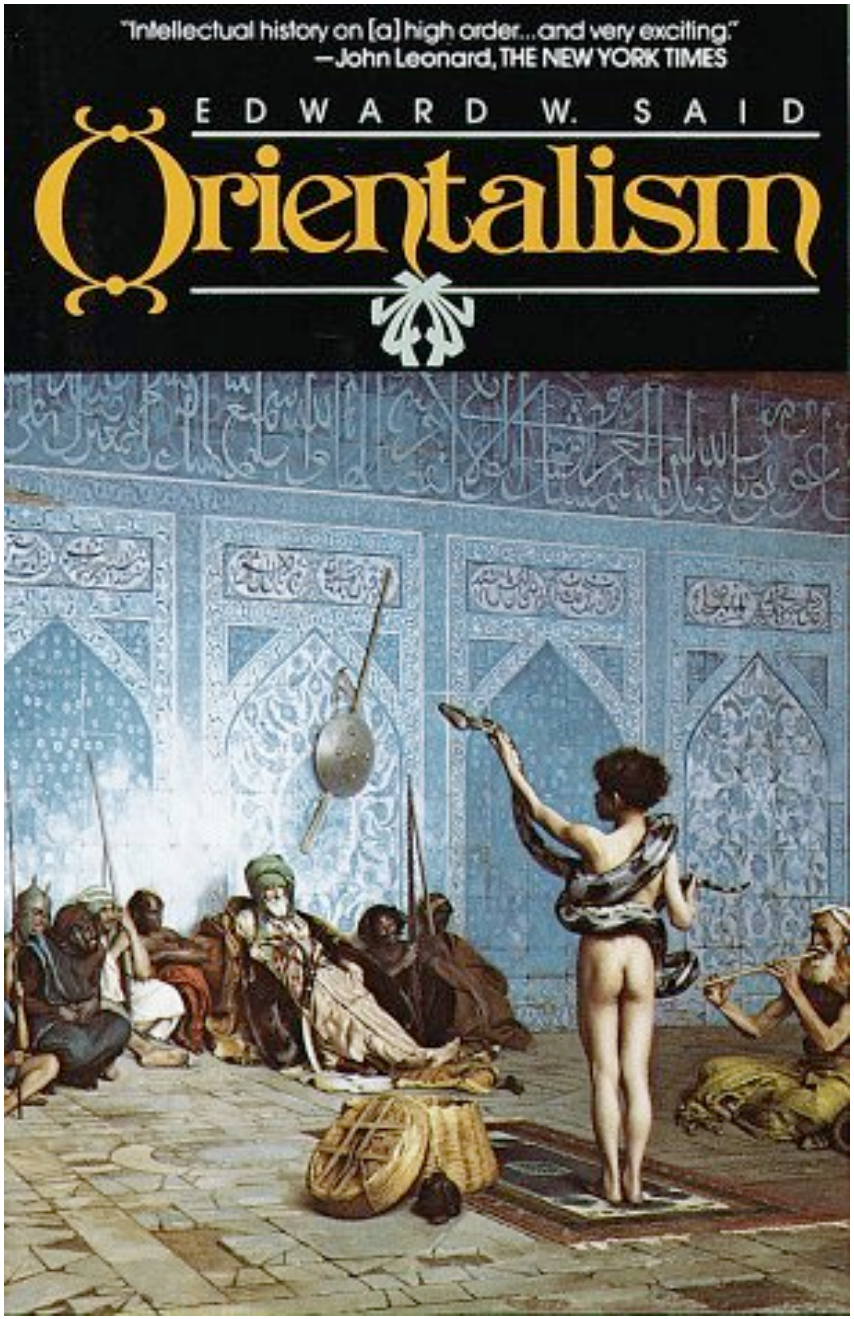


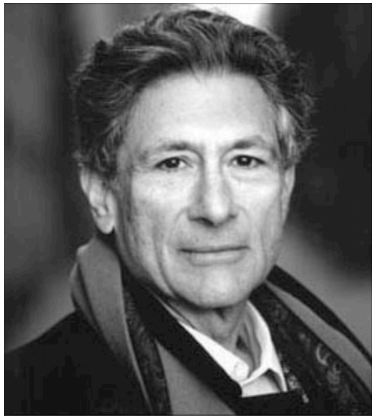



# Visit to India

# IT for our world's music?




"Intellectual history on [a] high order... and very exciting."
—John Leonard, THE NEW YORK TIMES
EDWARD W. SAID
Orientalism



# Music Information Technology

*Data intensive processing for music applications.*

- What data should we use to study a given musical repertoire/culture? How can it be made available for research?
- What information processing methodologies should we focus on for finding the specificities of a musical repertoire?
- What systems could be developed of relevance for specific cultures?

# "**Comp**utational Models for the Discovery of the World's **Music**"

ERC Advanced Grant for 5 years

# CompMusic Objectives

- Promote multicultural approaches in Music Information Technology.
- Work on information models for culture specific contexts. Characterize differences.
- Use as many types of information sources as possible (audio features, symbolic scores, text commentaries, user evaluations, ...).
- Use culture specific perspectives. Involve researchers immersed in the music cultures to be studied.

# Musical repertoires

- India (Carnatic, Hindustani), Turkey (Ottoman), North Africa (Andalusian), China (Han).
- Classical traditions with alive performance practices and strong social and cultural relevance.
- Musicological and cultural studies available.
- A lot of “good” data available.

➡ **Possibility to challenge current western centred information paradigms.**

# Carnatic music

***IIT-Madras***

- *Dr. Hema Murthy*
- Dr. R. Aravind
- S. Venkat Vikram
- Aswin Bellur
- Vikram Venkatesan
- TM Krishna

Sudha Ragunathan

# Hindustani music

***IIT-Bombay***

- *Dr. Preeti Rao*
- Vinutha Prasad
- Joe Cheri Ross
- Amruta J. Vidwans

Ravi Shankar

# Ottoman music

BAHÇEŞEHİR ÜNİVERSİTESİ

- *Dr. Barış Bozkurt*
- Dr. Andre Holzapfel
- M. Kemal Karaosmanoğlu
- Utku Uzmen
- Okan Murat Ozturk

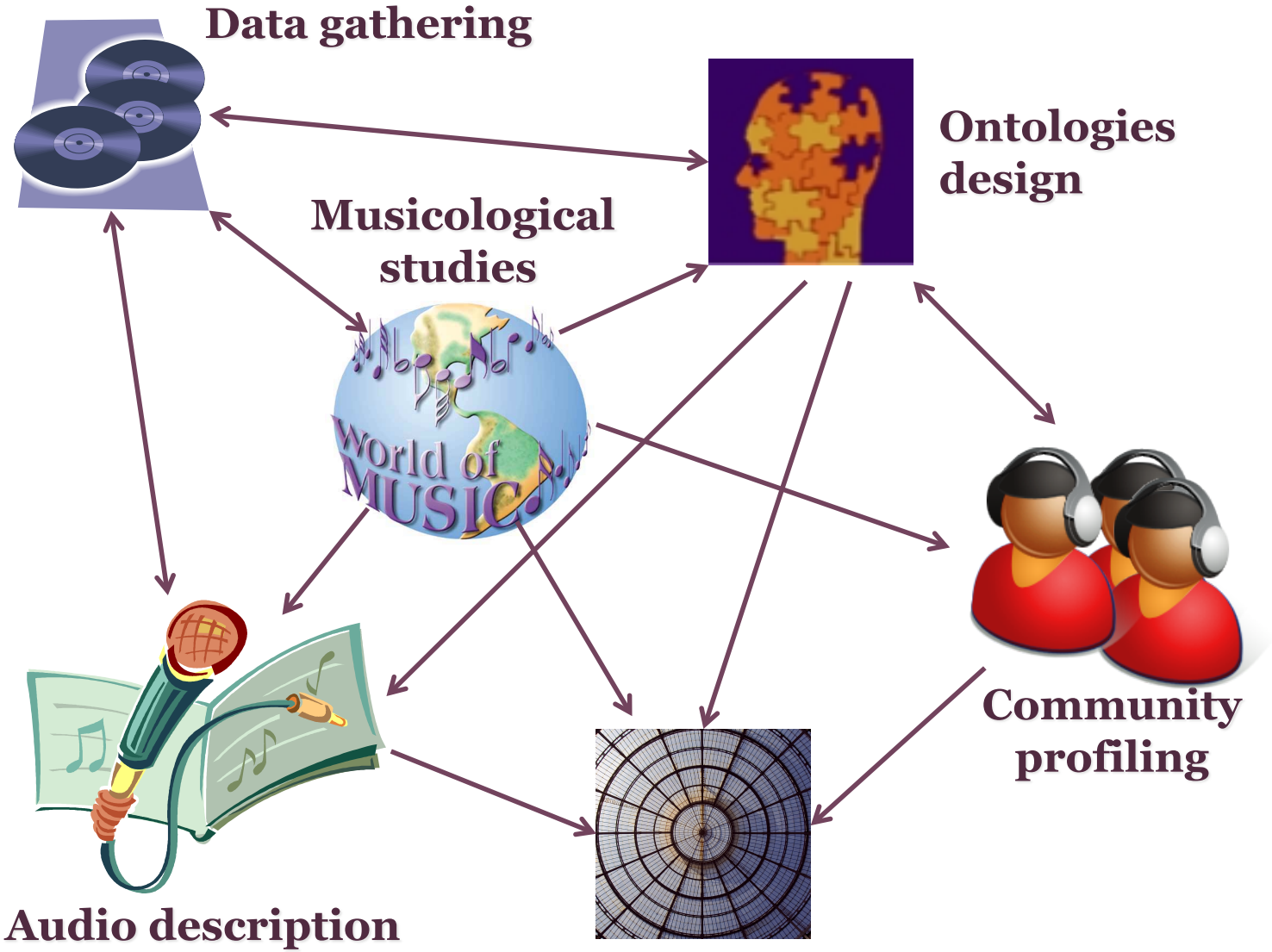
# Andalusian music

***Team TBD***

# Han music

***Team TBD***

# CompMusic tasks



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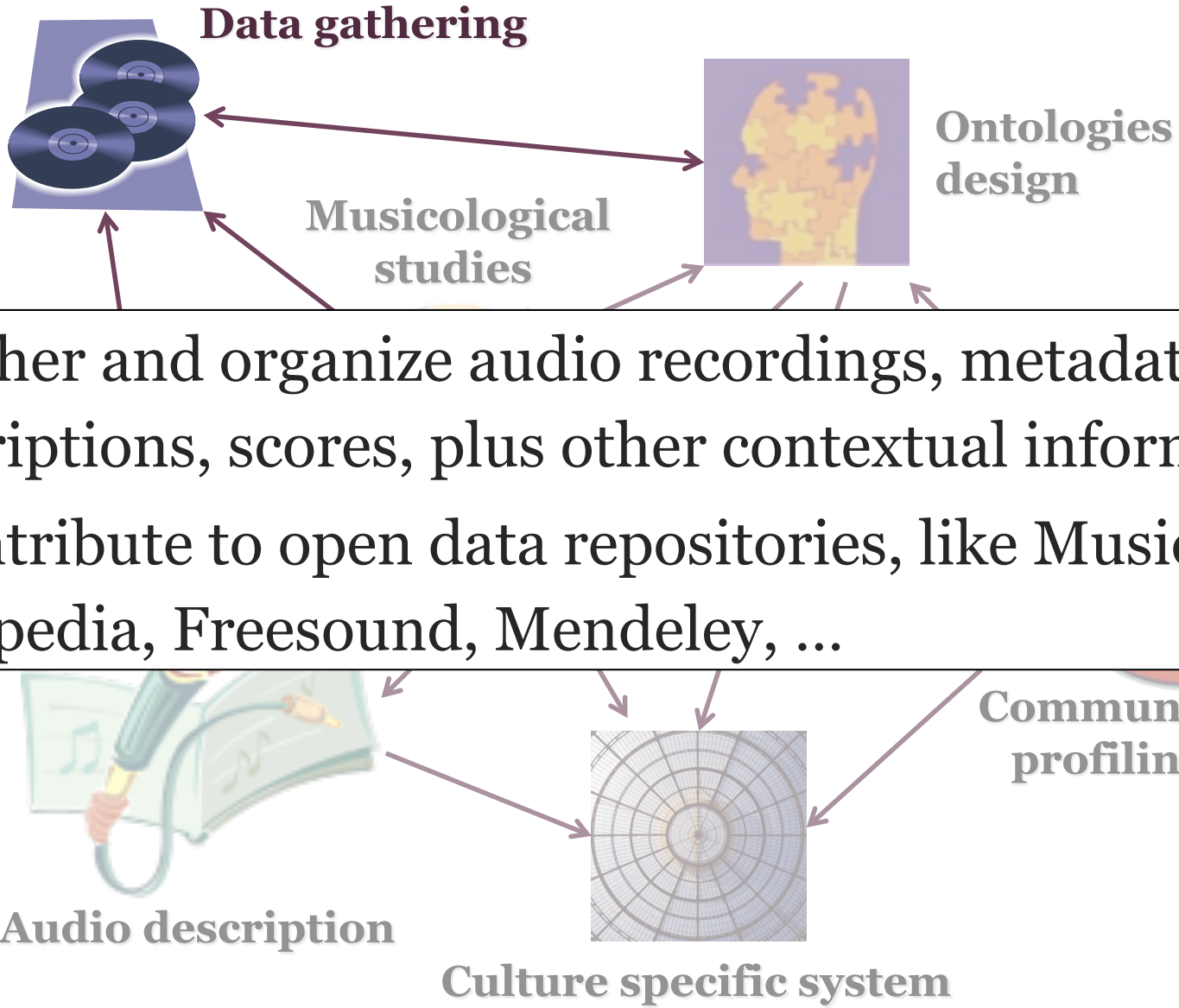
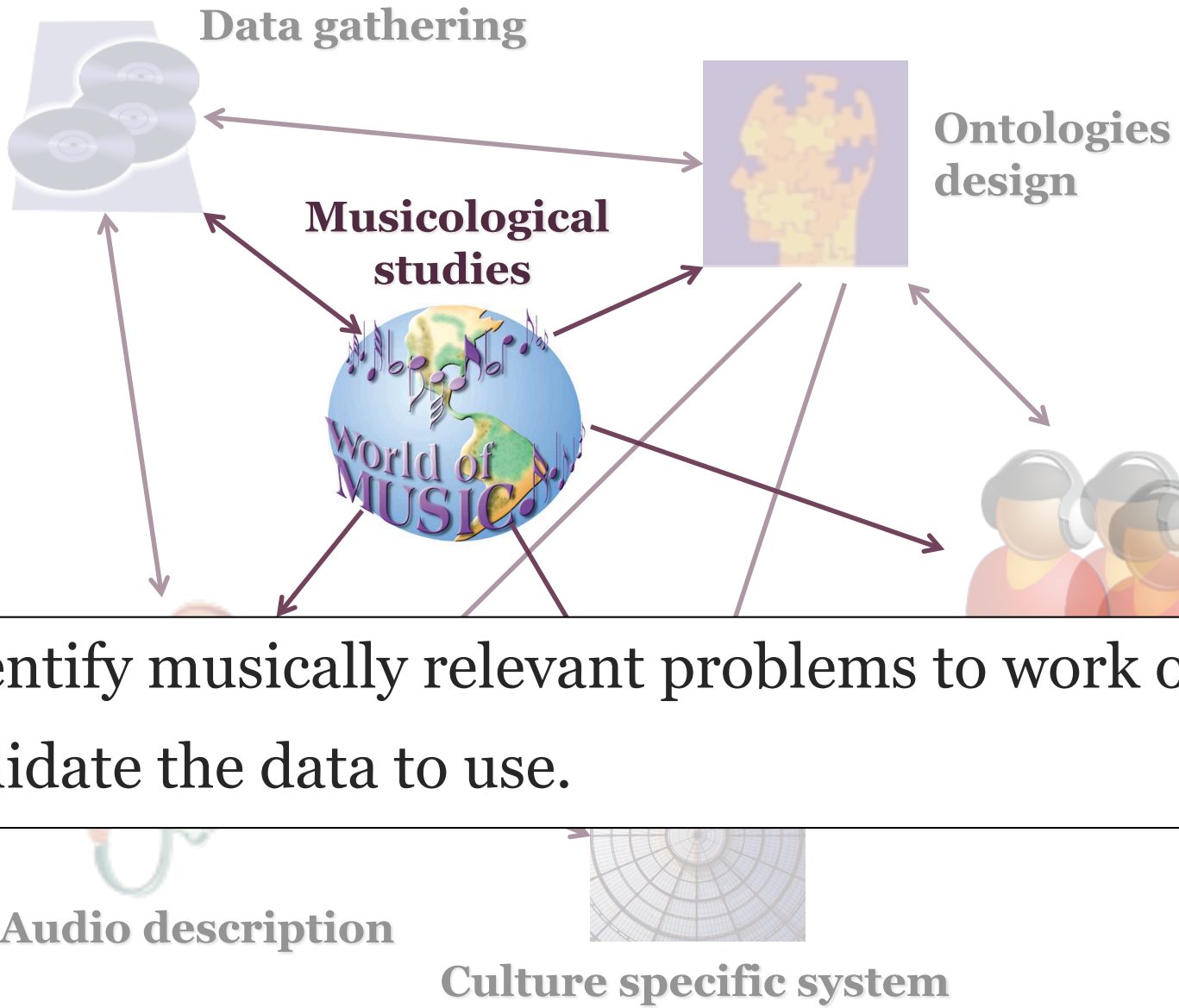



- Gather and organize audio recordings, metadata, descriptions, scores, plus other contextual information.
- Contribute to open data repositories, like Musicbrainz, Wikipedia, Freesound, Mendeley, ...

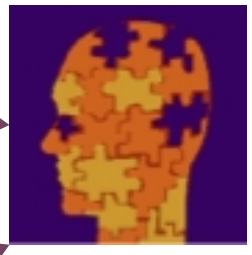
# CompMusic tasks




- Identify musically relevant problems to work on.
- Validate the data to use.

# CompMusic tasks

Data gathering

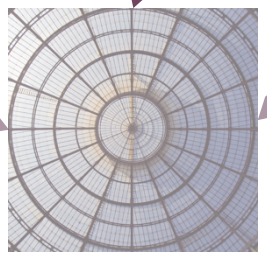


Ontologies design

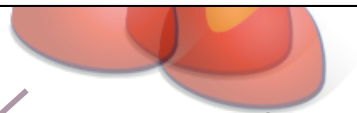
Musicological studies

- Design ontologies for annotating the music collections.
- Contribute to open ontologies, like the Music Ontology.

Audio description

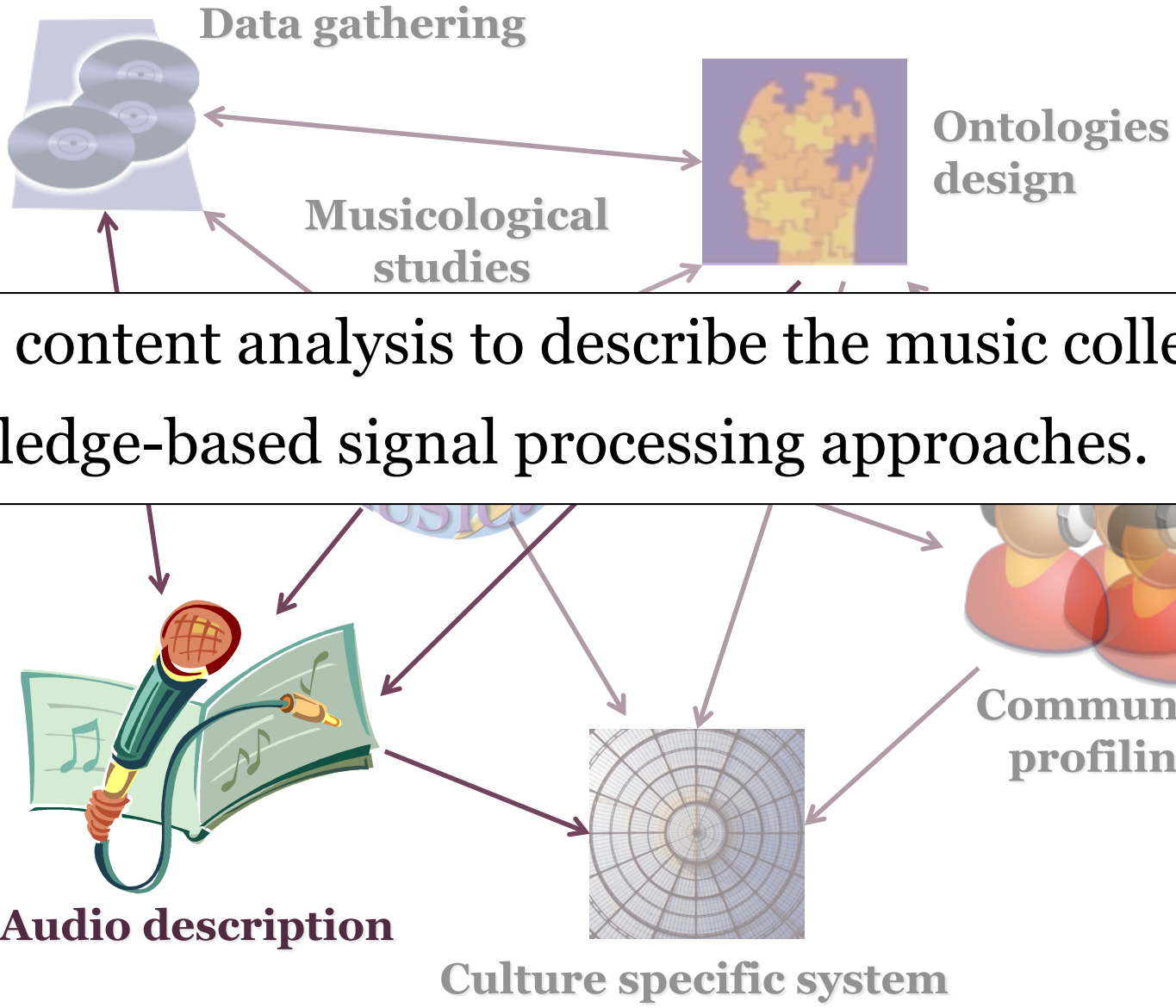


Culture specific system



Community profiling

# CompMusic tasks



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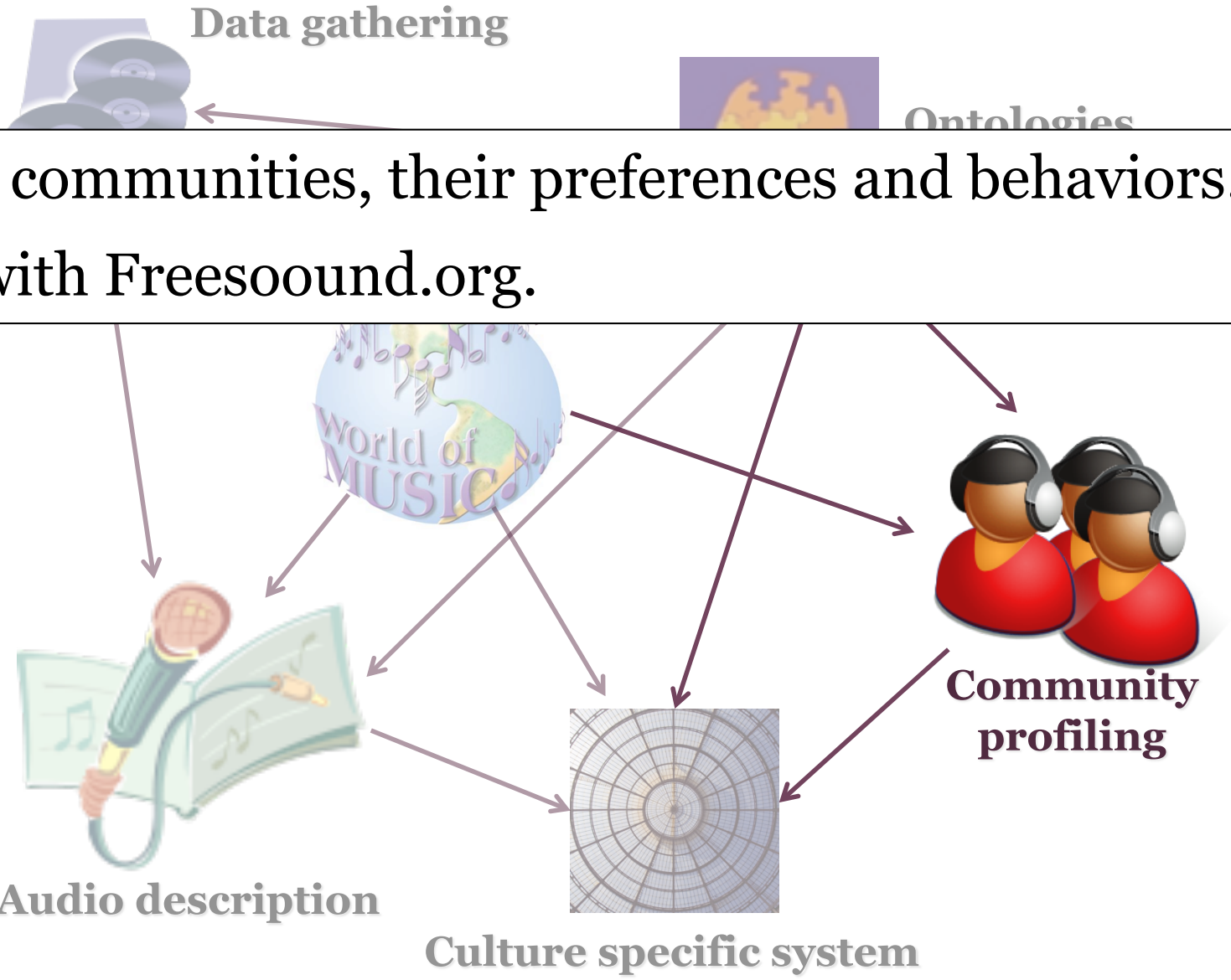

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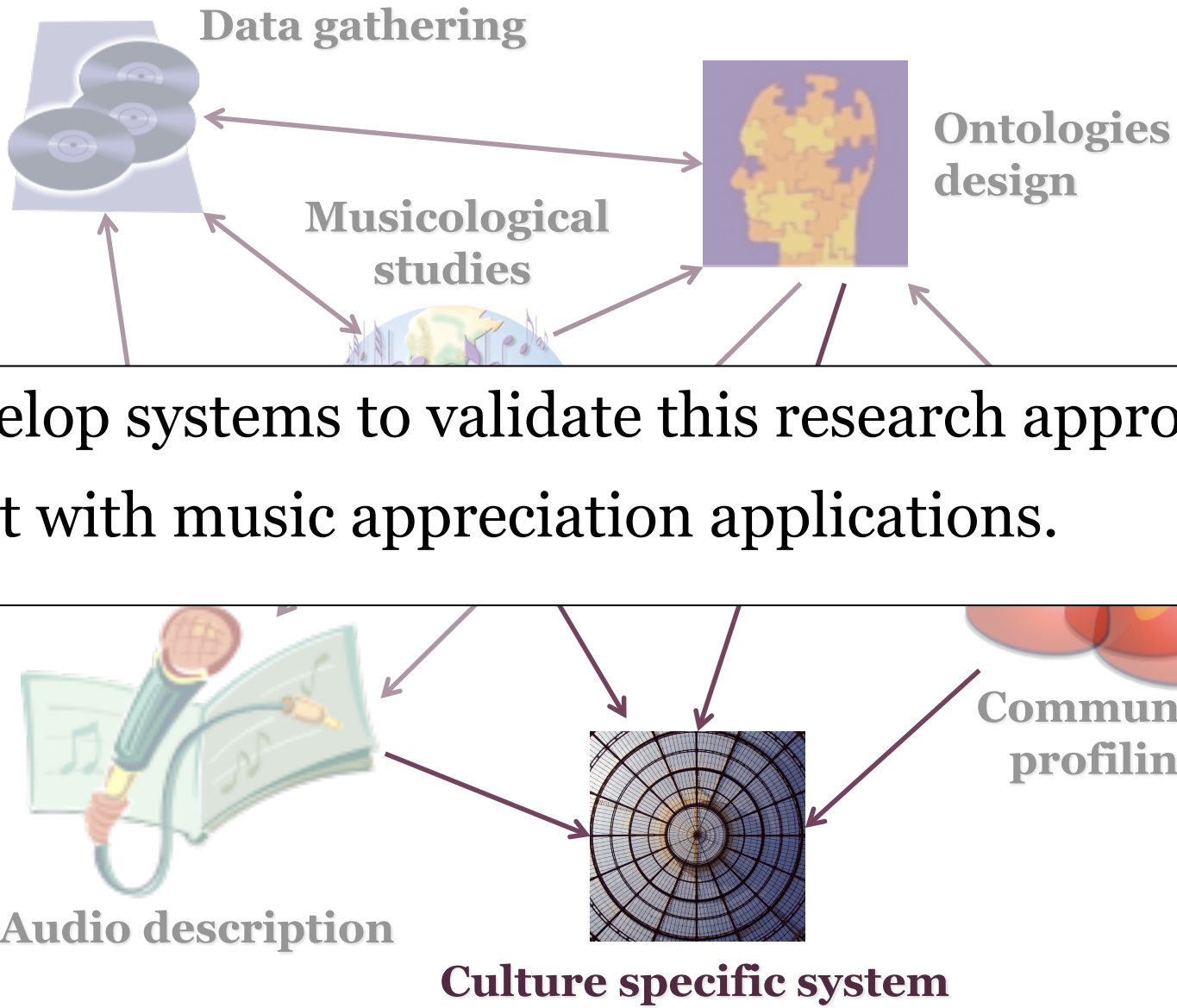


- Develop systems to validate this research approach.
- Start with music appreciation applications.

# Conclusion

*A multicultural approach*
*could help make qualitative advancements in*
*Music Information Technology.*

*We should make sure that*
*Music Information Technology helps*
*preserve and enrich our multicultural world.*

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