Ontological description of Indian art music for knowledge-driven exploration of audio music collections

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System overview & goals

Analysis of melodic and rhythmic aspects of music taking advantage of the domain knowledge obtained from musicological texts and from experts:
http://compmusic.upf.edu/node/4

Knowledge-based similarity measures to navigate and explore the music collections using musically aware connections between entities [1].

Ontologies for Indian art music

Three important aspects which need ontologies for a complete description of Indian art music: Rāga (melodic framework), Tāla (rhythmic framework) and Forms (compositional and improvisatory categories).

Challenges relevant to most, if not all music traditions, such as melodic sequences, are modeled with appropriate semantics.

Used in conjunction with audio data analyses with mutual benefit.

Used in linking multiple sources of information.

Used to directly compute the relatedness/similarity measures between musical entities.

Example queries

1. Which svaras are the most distinguishing ones between Tōḍi and Śankarābharanarāṇī?
2. List out the differences between phraseology for Kalyāṇi rāga in compositions of Tyāgarāja and Dīkṣitar
3. Which rāgas are similar to Bahudārī?