

GOASEMA - SEMANTIC DESCRIPTION OF MUSICAL AUDIO

[Start: january 2004 / End: december 2009]

PROJECT DESCRIPTION

Mission

This project aims at developing a perception-based musical content analysis theory, and at validating this theory in the representative application domains of audio-mining, interactive multimedia, and brain research. The theory will be instrumental in that it relies on computational tools that link musical content descriptions with the sound wave of that music. The efficacy of this theory will be tested in an elaborate set of tools for content description.

Thus far, little attention has been devoted to qualitative descriptors that relate to the user's sensitive, emotional and expressive experiences with musical audio. Although the literature on subjective descriptors is large (Gabrielsson & Juslin, 2003), very few studies have related these descriptors with audio signals and/or with motoric gestural behavior. Despite the fact that the relationship between content description (both objective and subjective) and the musical signal is not very straightforward, and that the semantics (i.e. the framework of inter-related concepts) of perceived musical qualities is rather vague, there is an urgent need to develop tools for dealing with this type of musical content in relation to audio. In this context, there is a serious lack of annotated databases that allow the development of bottom-up data-driven automated tools for musical content extraction and there is furthermore a serious lack of understanding of how objective/syntactical cues are related to perceived subjective qualities, as well as of how these cues are related to motoric gestural responses to music. The latter, thus far, have been underestimated as possible means for musical annotation and content description and need careful study. The development of an instrumental theory of musical content analysis is needed in view of a number of strategic applications, in particular audio-mining, interactive multimedia, and brain research. These applications are strategic because of their focus on content processing in the fields of electronic delivery and interactivity, and because of their relevance for very advanced studies of the human brain.

Promotors

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