

COST STSM Work plan



Work plan and objectives

This STSM should take place within a collaboration between the two laboratories: VALORIA, at university of Bretagne Sud (France), specialized in 3D synthesis of gesture, and McGill university, in the field of the analysis of gesture interaction during musical performances. The aim of the STSM is to analyze gestures (and in particular percussive gestures), to extract pertinent features during performances, and to use these features for re-synthesis.

Concerning the synthesis part of the project, several modules have already been developed in VALORIA:

- the construction of a virtual physical humanoid with the Novodex software.
- the elaboration of control mechanisms using sensory data (visual, proprioceptive data) to automatically calculate the force control parameters.
- the simulation of a virtual physical 2D membrane.

The VALORIA lab. has acquired some experience in this modelling and animation field (see S. Gibet & al. references)

Concerning the analysis part of the project : to model dexterous real gestures, it is necessary to represent and model the interaction process, responsible for the quality of the attack and the gesture expressivity and to elaborate more high level cognitive strategies. McGill has physical devices for motion capture, acquisition and processing. Moreover, this team has acquired a long experience in the field of analysis and evaluation of gestures during performances (see Marcelo Wanderley & al. references).

Finally, this STSM would enable publication of results in high-level conferences and journals of the related fields.

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