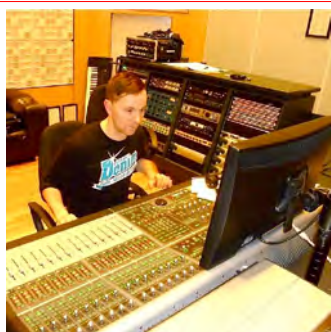


**Valery Vermeulen**(Performance) **Montage Cinema Revived by the EMO-Synth**

**Topic: interactive multimedia & generative systems**

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**Abstract:**

*Montage Cinema Revived by the EMO-Synth* is a new interactive multimedia project where the emotional impact of automatically generated sound and image is maximized using artificial intelligence techniques.

At the very heart of the technology used in the project lies the EMO-Synth, a generative soft and hardware system in which the emotional man-machine interaction plays a central role. Using the EMO-Synth involves two stages: a learning phase and a performance phase. In the learning phase the EMO-Synth will subsequently generate auditory artefacts and analyse the resulting emotional impact on the user. Using machine learning and statistical techniques the EMO-Synth learns in an adaptive way to generate sounds and music that bring the user in pre chosen emotional states. Once the learning phase has passed the EMO-Synth is ready to be used as a real time responsive multimedia tool. During performances knowledge build from the learning phase is used to generate realtime personalized soundtracks and live visuals. The visual material is hereby generated by the EMO-Synth and partially controlled by the same person placed in front of an audience. For every performance the EMO-Synth will seek to maximize the emotional impact of generated sound and image on the user. The live audiovisual concerts resulting from this experience intend to be unique and entirely based on the personal emotional feedback of the user.

The development of the EMO-Synth relies on a broad range of scientific and artistic disciplines including affective computing, genetic programming, advanced statistical modelling and algorithmic sound and image generation techniques.



*Montage Cinema Revived by the EMO-Synth* at art cinema offOFF (Ghent, Belgium)

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**Keywords:**

affective computing, generative music and image generation, creative evolutionary systems, genetic programming, artificial intelligence, statistical modeling and biofeedback