

Adapting a computer-system for usage in typical situations of free soloimprovisation.

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Abstract

This thesis documents the development and testing of a computer-software-model, that allows musicians to improvise with the computer as a musical partner. Nowadays computers CPU power is high enough to analyse, manipulate and output audio-signals in realtime. That should make it possible to build interactive music systems with the help of modern audio-programming languages like Max/Msp or SuperCollider. The main question is: In how far is it possible for a human musician, to communicate with a virtual improvisation partner software in a sensitive musical way, just by using the audio-stream as a controller.

As an experiment, an interactive music system was built with Max/Msp and three musicians from the german free-jazz-scene were invited to test it. By interviewing the human players and analysing the done recordings, it was possible to show that their improvisation got complete new influences and developed in an unique direction. The subjects described, that it was an inspiring, new experience for them to play with this artificial improvisation-partner. They all agreed in having recognised a both sided influence during the playing. But there were two aspects they all missed: 1. The software's capability of insisting on own musical ideas. 2. A learning feature, from so far passed situations.

This is the point, where research approximates the field of artificial intelligence. Developing learn models for interactive music systems could shift the whole thing onto a next level.

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