

Breakout Session I: Music

Title: OMNI: a Max/MSP based creative environment for algorithmic composition and multimedia

Author: *Jeremy Baguyos, MM, UNO*

Using classic generative techniques and harvesting the content of databases of audio assets, OMNI pursues the cogent integration of algorithmic music with interactive and immersive multimedia, by mapping music's control parameters and representation of audio to multiple inputs and multiple outcomes across various hardware and software platforms.

OMNI is an algorithmic music composition/performance environment that automates the creative musical control process according to both end-user specified musical parameters and automated approaches that cede musical decision making to the computer. Sounds are generated either through the calculated retrieval of stored audio assets, which include developmental music, non-developmental music, sound effects, and voice-overs or through synthesis processes. In addition to user-triggered automated processes, inputs to OMNI are control data, which could be anything that can be reduced to data or any device whose output can be reduced to data (MIDI, audio, video, motion detection, game controllers, music hardware, musical instruments, voice, brainwaves, text files, etc.). This control input is in addition to musical gestures requiring storage, analysis, enhancement, and modification. Outcomes are the result of mapping the data representation of audio/music to not only audio output but also to various elected multimedia/intermedia components (multichannel speaker arrays, video, text, web browsers, audience interaction, game environments, game avatars, inanimate objects, special theatrical effects, lighting, robots, holograms, tesla coils, body parts, kitchen appliances, etc.)

The research goal of OMNI is the creation of a seamless and eloquent automation of the creative musical process within a *gesamtkunstwerk*, updated for the 21st century. The teaching goal of OMNI is the creation of multiple modular examples for study and use by students in their own personal narratives that pursue cogent, interactive, and immersive multimedia in all of its forms.