

LAMMPS

Low-Cost Agile Multimedia Performance System



Concept:

For a long time lanterns were used for decoration lighting both indoors and outdoors. The paper lantern invented in old China was even used for communication purposes. With our project we want to lift those classic lanterns out of their sole role as decoration and use them for projection of audiovisual content in 3d-space.

Therefor we want to extend the classic lantern: The light source will be able to create arbitrary colors and additionally audio playback will be possible through a loudspeaker. A high count of such objects can then be used in both installation and concert contexts to make the available space artistically useable. A fast and easy deployment of the system can be achieved by wireless control of each single unit with internal power supply.

The project is being developed by Benjamin Graf (B.A. Musical Informatics) and Matthias Meyer (B.Sc. Electrical Engineering), both M.A. students at the Institute for Musical Informatics and Musicology at the University of Music Karlsruhe. After the technical development of the system the artistic possibilities will also be explored.

Hardware:

- Low-Power-RF-Modules in the 2.4Ghz-Band, built modularly with power supply via battery or wire
- Multiple functionalities via extension modules, i.e. RGB-LED or loudspeaker
- Design open and extendable for other future uses
- Central computer for module management and control. Interfaces: Ethernet/WiFi, Bluetooth

Software:

- Central management of modules via Web-Interface
- Controller does tasks like panning of objects in space
- Interfaces: OSC, DMX/Artnet, MIDI

Applications:

- Concerts with content composed for this specific system
- Interactive installations both indoors and outdoors
- Extensions of festival-stages into the surrounding space