

## Monitored Artwork

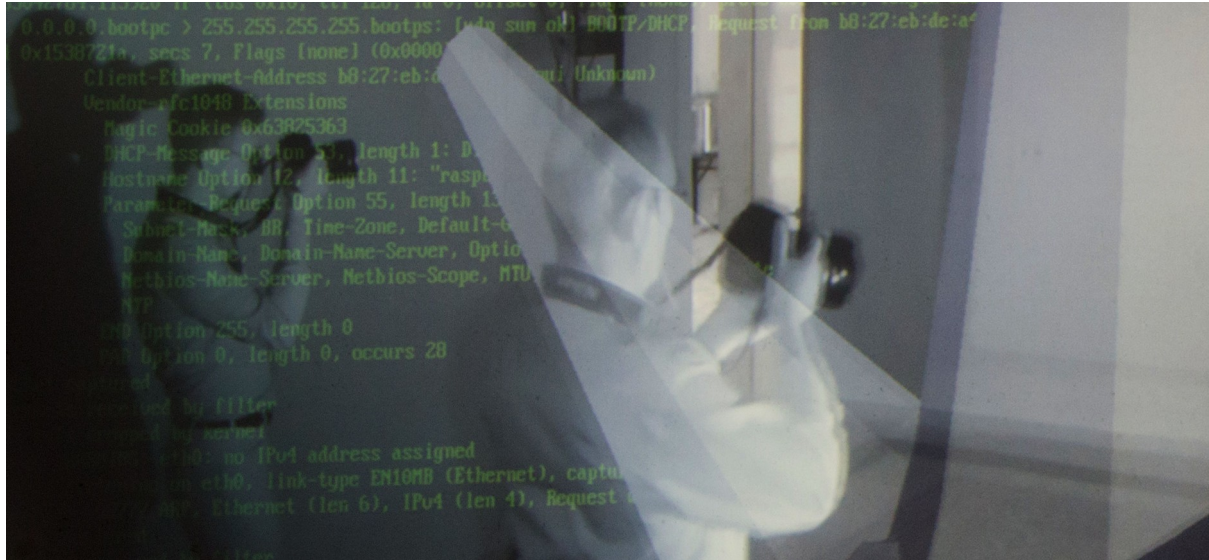
an interactive surveillance installation  
by Wolfgang Spahn & Malte Steiner, 2015

The physical and virtual presence of the audience becomes part of the interactive installation Monitored Artwork by Wolfgang Spahn and Malte Steiner.

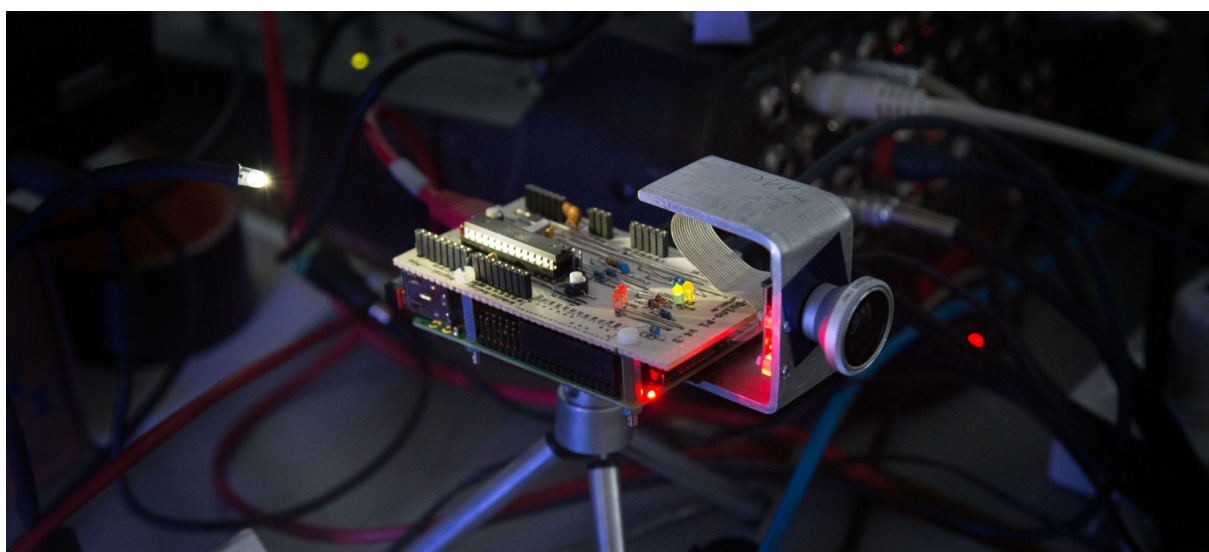


The installation is an immersive, sound, kinetic, light environment, which plays and demonstrates the current methods and technical simplicity of contemporary electronic surveillance. The first encounter with the installation shows the cosy comfort of security, which turns into something threatening when the sound and cameras are reacting on the visitors, who are entering the space. The installation is not only monitoring the passers-by, it has additionally inscribed a self-monitoring system, so even on its own the installation keeps monitoring and watching itself, creating an extra layer of complexness on the topic.

Aesthetically the installation merges together raw data, virtual worlds and real time filmed material, which results in an augmented reality. This fusion also happens in the acoustic space, where the soundscape is combining digital synthetic sound with electro-mechanic noises.



Monitored Artwork is Steiner and Spahn's second piece based on their open source Embedded Art System , which is conceived as an interactive installation. The installation is based on four units each consisting of motorized cameras, an Arduino and Raspberry Pi that each are connected to a video projector. An additional Raspberry Pi runs a Python / OpenCV program and overlooks the room with a master camera with a wide angle lens. All units are connected to each other via a local network. The movements of the audience are tracked by the cameras and the captured positional data of the visitor is then used to control the units, which signalizes them to move their cameras to follow up to four persons.



Additionally the data is used to control the soundscape created by Pure Data on the same Raspberry Pi, where also Midi controlled electrical motors via pickups are used, with a result of the mechanical noises being combined with digital sound. 3D objects created from Platonic solids are overlaid the camera pictures from the cameras and animated in perpetual motion, which also reacts to the audience.



An additional layer of surveillance is added by the display of the current network traffic, which is shown under the graphical output of each camera on its projection. When the system is connected to the network of the exhibition space, all network activities are visible and projected in the screen, but also the internal communication between the devices is displayed for the audience.

The installation was created in 2015 and first shown at Musrara Mix Festival Jerusalem, Israel.

Infos:

<http://embeddedartist.dernulleffekt.de/doku.php?id=installation>

Video:

<https://vimeo.com/132120702>

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### Technical Rider:

- four projectors with HDMI input mounted on ceiling
- 2 active speakers
- internet connection
- dark room
- four screens or white walls

