PaNoPtYk pArAdOx

"Escher meets Foucault"

Immersive environment for audiovisual performance;
multimodal hyperinstrument
for sound and image composing in real-time

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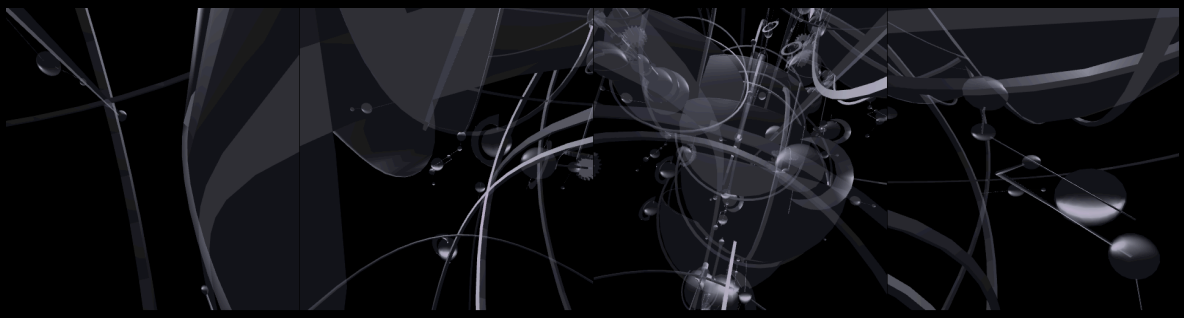


Video documentation:
http://vimeo.com/46089595
http://vimeo.com/17452301
http://vimeo.com/35688217

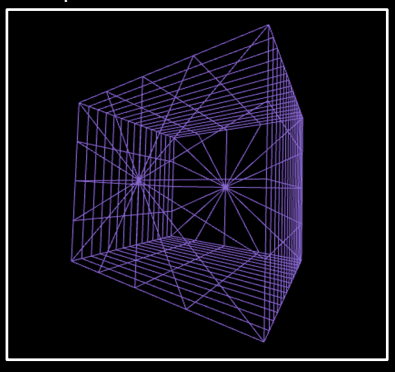
.../// DESCRIPTION

PaNoPtYk pArAdOx is an audiovisual performance environment, a multimodal instrument with which to create real-time sound and image compositions. It is an invitation to experience a futurist-constructivist virtual landscape, a constantly mutating technorganic micro-universe of alien machinery reacting to an evolving soundscape.

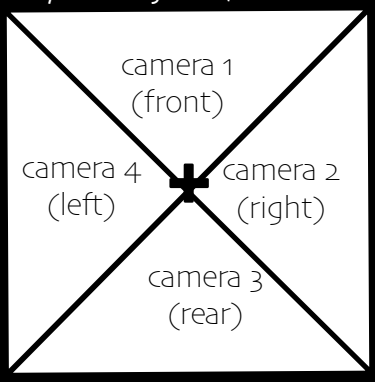
Visually, PaNoPtYk creates a continuous, virtual space of 360º. Using 4 virtual cameras, each angled at 90° to cover the 360° of the entire space, the piece offers four simultaneous points of view of the same 3D virtual scene, unified in the same, final image.

PaNoPtYk can be presented as an immersive environment (covering 3 or 4 walls of a space) or in panoramic format (unfolded onto a single screen). The latter will allow the exploration of the unusual visual paradox created by the projected aberrations that result from unifying the perspectives of 4 fields of vision.

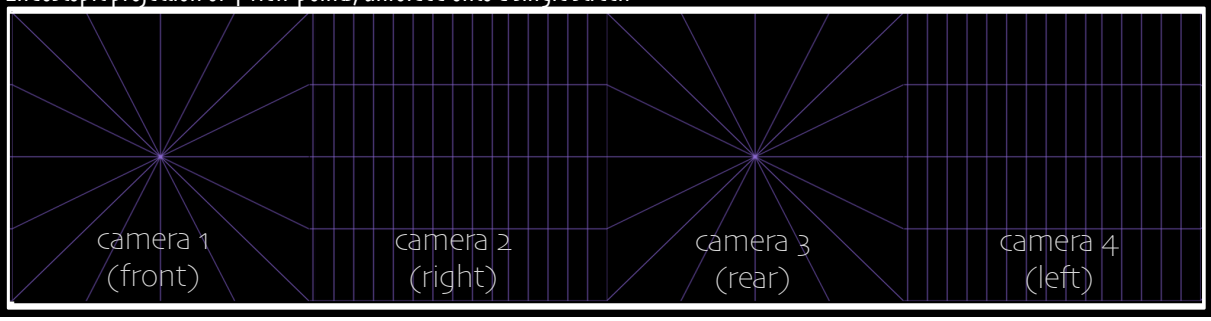
Exoscopic view of a cube

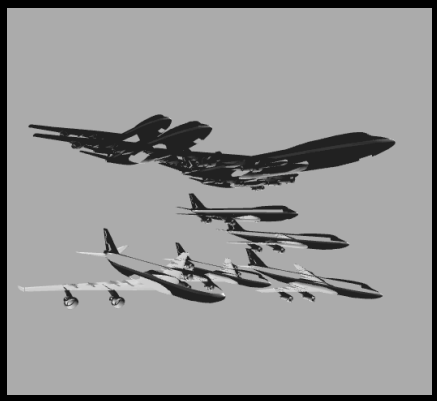


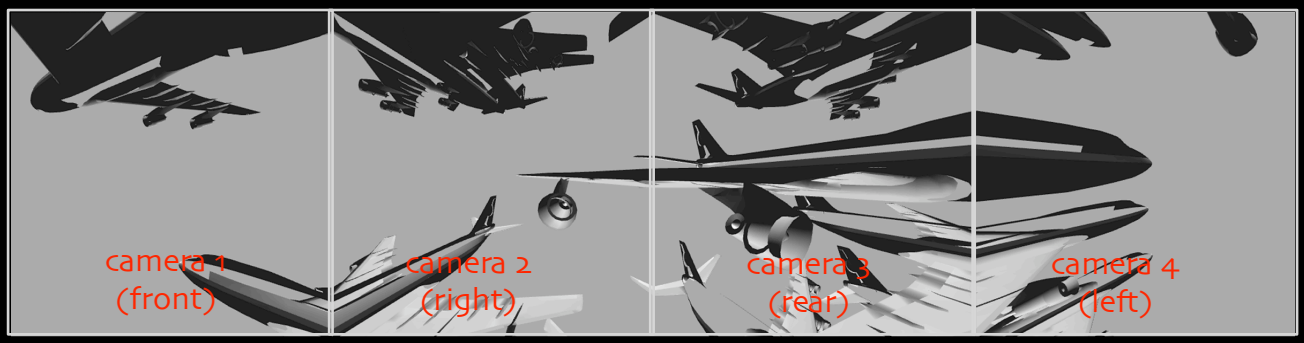
Camera system configuration, at the centre of cube



Endoscopic projection of 4 view-points, unfolded onto a single screen







..../// CONTEXT

PaNoPtYk pArAdOx was instigated by the analysis performed by Michel Foucault of the concept of "panopticon" in "Discipline and Punish: the Birth of the Prison", (Paris, Gallimard, 1975), as conceived by 18th century British philosopher Jeremy Bentham, for optimal surveillance in prison settings. Beyond its repercussions in today's social control systems, the work explores the possibilities of simultaneously perceiving the unfolding of multiple perspectives. PaNoPtYk pArAdOx draws attention to the conditioning of our mechanisms of visual perception; in the process of seeing, there are assumptions from the rational mind, which modify and filter reality through judgements, classifications and expectations.

The history of Western art presents a succession of currents alternating realistic and symbolic representational archetypes. Impressionists, cubists, futurists and other exponents of the avant-garde at the start of the last century explored the possibilities of de-constructing our learnt reality into its un-adulterated, essential components, such as color, form and movement. M.C. Escher went a step further, altering the rules of perspective and gravity to re-combine them in unexpected ways and generate complex visual "paradoxes". His focus was the creation of a new space with new rules that subvert rational thinking.

The evolution of tools for the graphical representation of the world, from the 'camera obscura' used by 15th century artists to digitally rendered 3D environments, has aimed towards capturing reality in all its depth and detail, onto the 2D surface of a canvas or screen. They have achieved a great degree of realism. However, the model of spacial representation is still based on Renaissance linear perspective, which aims to re-create the illusion of reality as we have learnt it is, instead of how we really see it. These are still the representation models that rule digital graphic platforms, as is proved by real-time API´s such as Open GL and directX, which only support standard, orthogonal and Renaissance perspective projections.

These graphic engines and tools allow representations that are realistic enough to create virtual worlds as an extension of reality. However their limitations have left artists trapped in the ancient model of representation, denying (or complicating, rather) the possibility of treating virtual spaces with greater plasticity, instead of forever tied to the Renaissance vanishing point.

PaNoPtYk pArAdOx explores the full potential of the present-day, electronic tools it uses; no longer limited to the re-creation of reality as seen through the flat plane of a window, they serve the creative purpose of an infinite imagination through the looking glass.

.../// Technical Description

The piece can be presented in 2 forms:

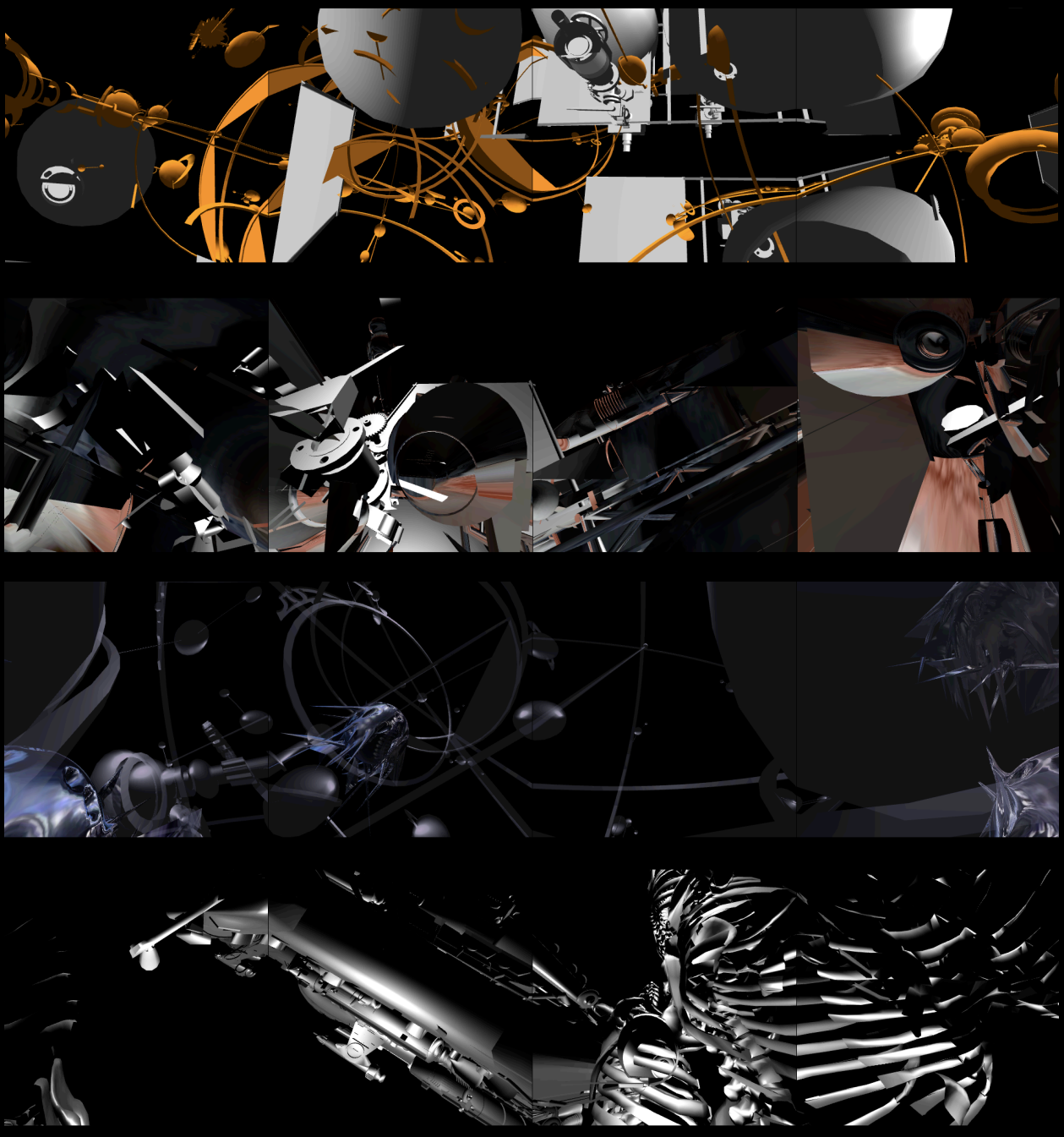
1) as full panoramic setup (4:1 screen)
2) as an immersive, projected environment (projector setup relative to spatial conditions and budget)

The application has been developed using Max/Jitter, based on an Open GL architecture. Initial samples of its possibilities include the application of shaders, multiple-screen output, real-time manipulation of the scene, software synching and external controllers through MIDI and OSC.

.../// CREDITS:

Concept and software: Caen Botto
Some functions and scripts are based in Zacharie Seldless´s z.glNavigator_quad patches

.../// SCREENSHOTS:

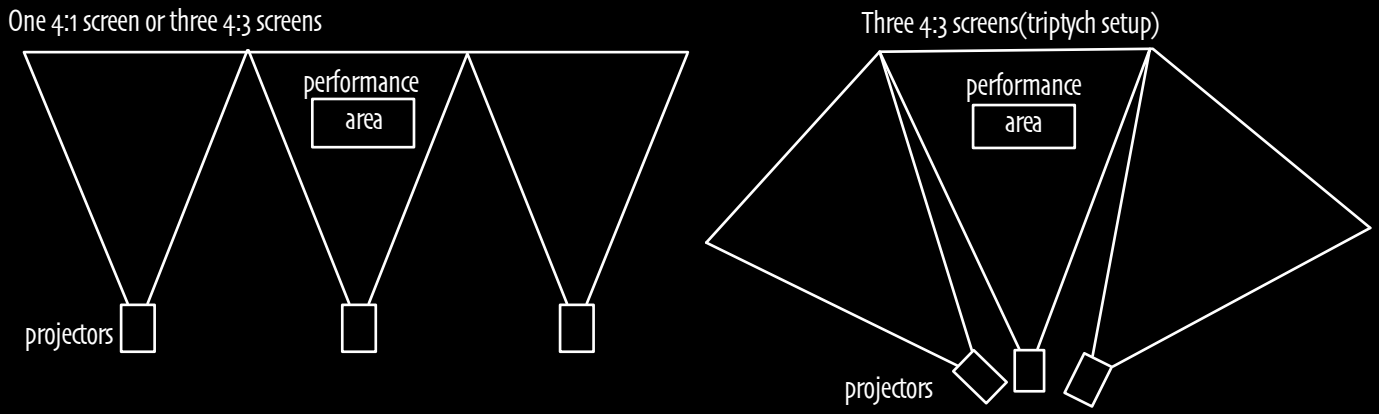


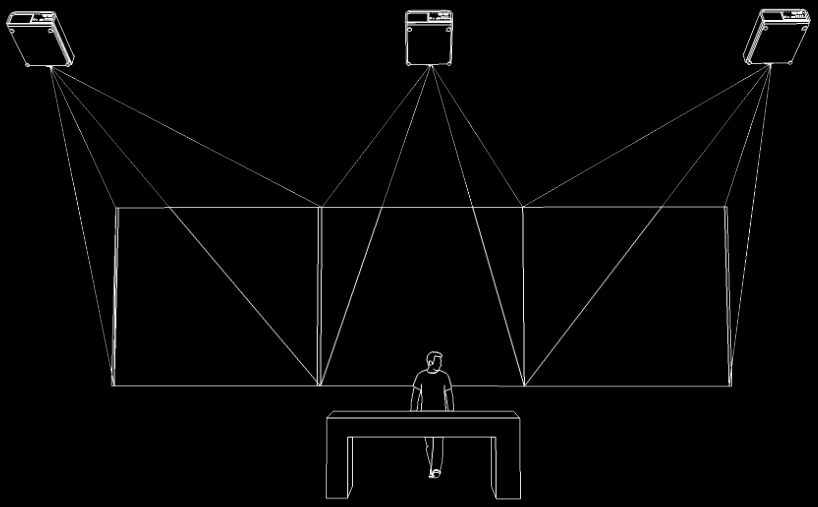
.../// TECHNICAL REQUIREMENTS

..// Audio:
- stereo out (2 x 1/4 jack)
- stereo monitoring for performance area
- stereo PA with good sub-lows

..// Video:
The work can be presented in 2 formats: panoramic or immersive

./ Panoramic setup (option 1):
- Three XGA projectors 1024 x 768, same model and remaining lamp time, power relative to the screen size and lighting conditions
- One 4:1 screen (can also be 16:9, masked edges) or three 4:3 screens (triptych, semi-immersive setup); front or retro projection.





./ Immersive setup (option 2) example: http://vimeo.com/35688217

This option can be adapted to different space dimensions and characteristics. Technical requirements are relative to available space, ranging from a minimum of 3 projectors to however many are necessary to cover the entire space.

Minimum setup required:
- An empty white space, with at least 2 or 3 free walls to project on (minimum dimensions: 6m long, max height: 4,5 m)
- 3x 5000 lumens projectors (0,8:1 to 1,2:1 optics)

Others (both setup options):
- small table for the performance area (around 150cm x 70 cm)
- VGA wiring from performance area to projectors
- power supply 110v or 220v in performance area
- Dimmed, soft spotlight for performance area