

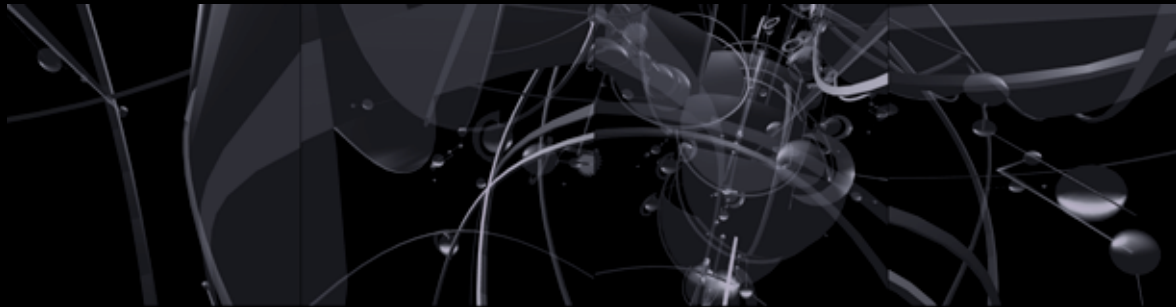
PaNoPtYk pArAd0x

"Escher meets Foucault"

Multi-screen and multi-camera real-time
audiovisual performance environment

Caen Botto

UNIVERSOMENTE SYNTHORGANYK LABORATHORIUM

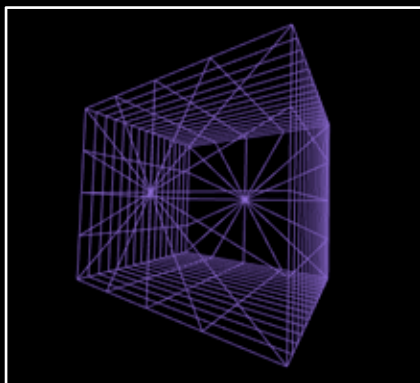


.../// DESCRIPTION

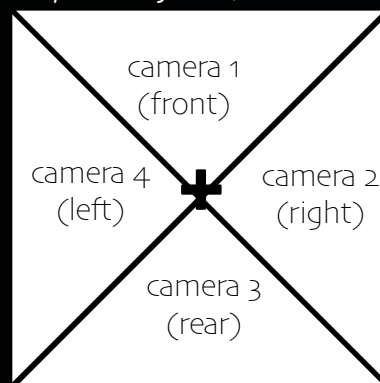
Video documentation:
<http://vimeo.com/17452301>
<http://vimeo.com/35688217>

PaNoPtYk pArAd0x is a real time audiovisual performance environment, that make use of four angles of vision of the same 3D virtual scene captured through a multi-camera configuration, to generates a continuous view. It can be experienced as an immersive environment as well as unfolded onto a single screen. The latter will allow the exploration of the projected aberrations formed by the unified presentation of the fields of vision of 4 cameras — each angled at 90° to cover the 360° of the entire virtual scene scene.

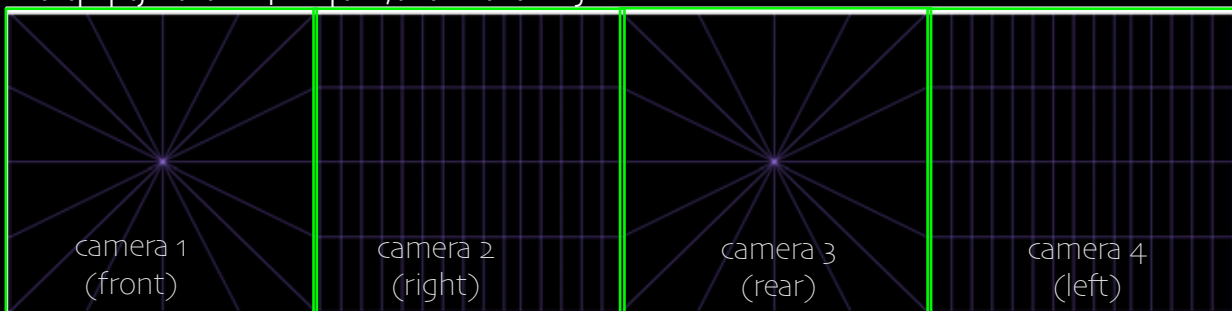
Exoscopic view of a cube

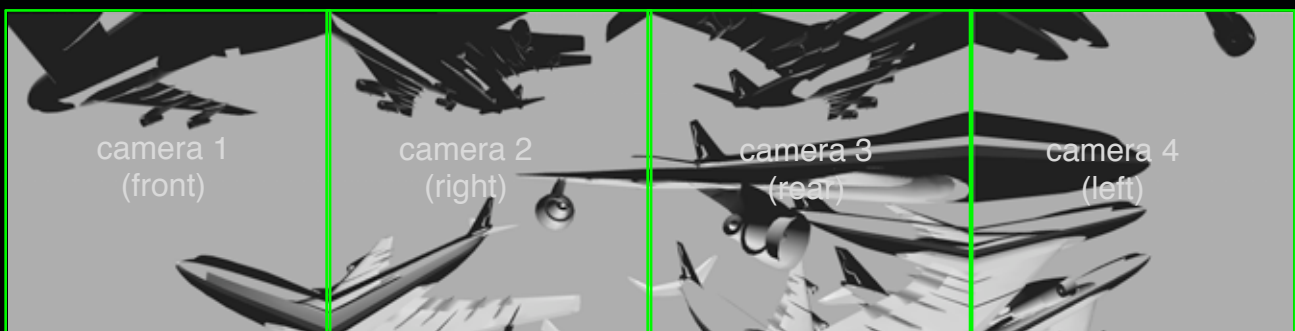
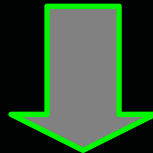


Camera system configuration, at the centre of cube



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





.../// CONTEXT

PaNoPtYk pArAdOx was instigated by the analysis performed by Michel Foucault (Discipline and Punish: the Birth of the Prison, Paris, Gallimard, 1975) of the idea of the Panopticon building designed 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 and consequences of simultaneously perceiving an unfolding of multiple perspectives. PaNoPtYk pArAdOx draws attention to the conditioning of our visual perception; in the process of seeing, reality is filtered through classifications, judgements and expectations of the rational mind.

The history of 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 20th century began exploring the possibilities of deconstructing our apprehended reality into its un-adulterated components, such as color, form and movement. M.C. Escher went a step further by subverting the rules of perspective and gravity, re-combining them in unexpected ways, to generate complex visual "paradoxes" that focus the interests to the composition of a new space with new rules that subvert the rational thinking.

Tools for the graphical representation of data have greatly evolved in recent centuries; from the use of the 'camera obscura' by 15th century artists to digitally rendered 3D environments, all aim at accurately capturing reality in all its depth and detail, onto the 2D surface of a canvas or screen. However, the parameters of representation are still based on Renaissance linear perspective, which aims to re-create the illusion of reality as we know it is, instead of how we really see it. These are still the representation models that rules the digital graphical platforms, because real time API's such as Open GL and DirectX, only support orthographic and standard perspective projections

Contemporary graphic engines and digital tools allow the most realistic representations to date, creating virtual worlds as an extension of reality. However artists haven't grasped the opportunity of transcending the limitations of this reality by treating 3D spaces in a way that differs from the tradition of the Renaissance vanishing point. PaNoPtYk pArAdOx explores the full potential of present-day electronic tools; 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.

The piece can be presented in 2 forms:

- 1) as full panoramic setup (4:1 screen)
- 2) as an immersive projection 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.

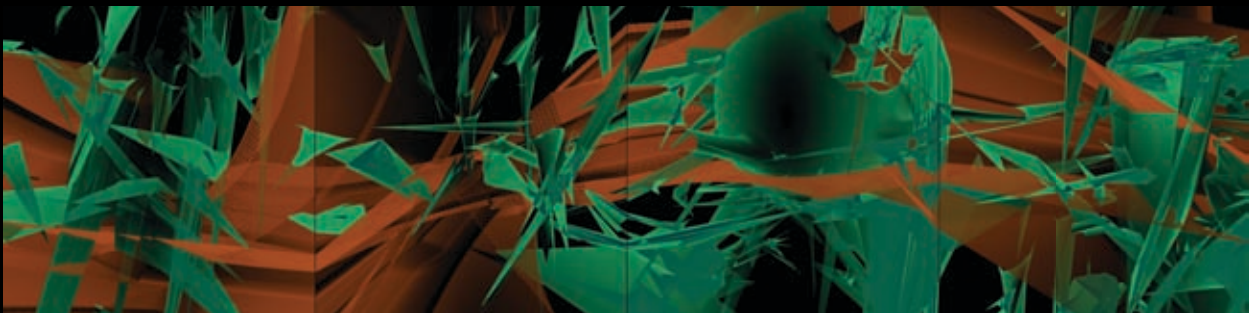
.../// CREDITS:

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

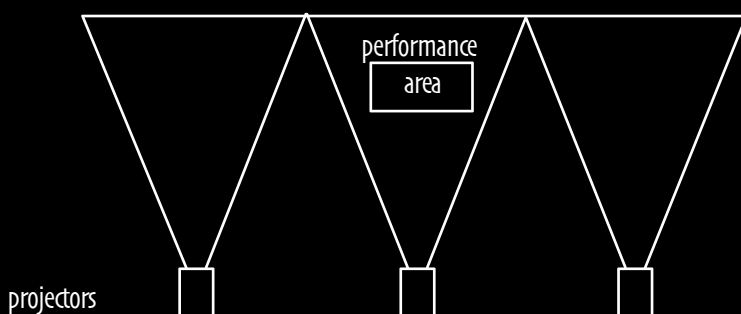
Video:

The work can be presented in two ways, as panoramic or as immersive projection setup

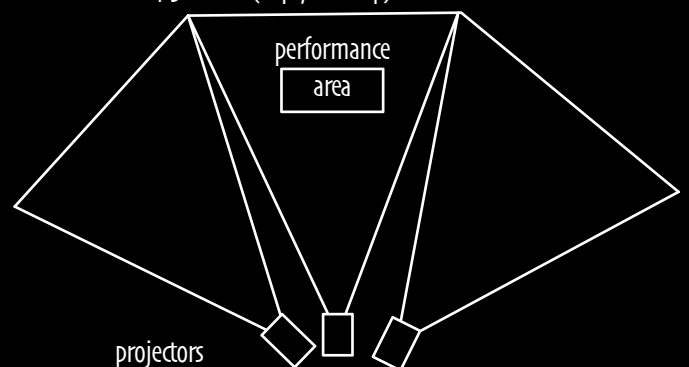
..// Panoramic setup (option 1):

- Three XGA projectors 1024 x 768 each, same model and lamp time, power relative to the screen size and lighting conditions
- One 4:1 screen or three 4:3 screens front or retro projection
(for the 3 x 4:3 option is also interesting for a triptych semi-immersive setup
(for the 1 x 4:1 screen we can also use a 16:9 screen by masking the unused border in with black fabric)

One 4:1 screen or three 4:3 screens



Three 4:3 screens (triptych setup)



..// Immersive setup (option 2) (video example for this option at : <http://vimeo.com/35688217>)

This option can be adapted to different space dimensions and characteristics

The technical requirements are relative to the space available, an orientative minimum setup required is:

- An empty white space, with at least 2 or 3 free walls to project
(minimum dimensions around 7 meters wide each wall, 4,5 meters height)
- Three 5000 lumens projectors (0,8:1 to 1,2:1 optics)

Others (both setups):

- small table for the performance area (around 150cm x 70 cm)
- VGA wiring from performance area to projectors
- power supply 110v or 220v in the performance area
- Dimmed soft focused light for the performance area

Others provided by the artist:

- Mac book pro
- Matrox triple headzgo
- Midi controllers and audio rack

...// BIO

Born in Buenos Aires, Argentina (1970); lives and works in Madrid, Spain.

Caen Botto is an intermedia artist who combines his training in musical composition research about perception, with his experience in interactive software development and gesture control systems to create installations, immersive environments and audiovisual performances. His work transcends the logical, codified and rational limitations of reality to construct an artistic language founded on the infinite possibilities of creative expression. As a musician, Caen seeks to transfer the physical relation with musical instruments, as well as the immediacy of action/reaction, to his computer-based audiovisual compositions and interface design. Among the themes explored in his work are: surveillance, communication beyond verbal constraints, magic and inter-connectivity in parallel (digital) realms.

In 2000 he created Universomente, an independent laboratory for research and production of experimental audiovisual techniques for interactive communication. Other achievements include the founding of Optiq Syndicate (Barcelona, 2002/ 03), an online distribution platform for media art, and of Gipsy Films (Barcelona, 2002/03), a multimedia lab specialising in audiovisual performances in real time. His work has also been presented at international platforms such as Dorkbot (Barcelona and Madrid, 2005 & 06), Sonar (Barcelona, 2003 & 04) or the Generative Art Symposium (Milano, 2002). His projects range from cyborg micro-systems (Ictuskopyk, in Buenos Aires 2000; Butterflystorm, Barcelona & Buenos Aires, 2002) and visual music performances (GMS, diverse locations, 2006) to hybrid systems combining installation, interactive performance and connectivity (Kludge, diverse locations, ongoing since 2006; Kandinsky_dreams 2.0, in Electrosonic, Burgos, 2009; Second Public Life, in After the Net (2.0), Plymouth, 2009; Chatroom, in Observatori, Valencia, 2008; Cod3: The Mechanics of the Spell, in HCI-FUN, FACT & LJM, Liverpool, 2006).