

CyberArts 2002

Body Movies – Relational Architecture No. 6

Rafael Lozano-Hemmer

Body Movies was the sixth in the series of installations in public space that Rafael Lozano-Hemmer has designed for cities in Europe and America. These interactive interventions in Madrid, Linz, Graz, Mexico City and Havana have been exploring the intersection between new technologies, urban space, active participation and “alien memory”. For the Cultural Capital of Europe Festival in Rotterdam, the V2 organization commissioned Lozano-Hemmer to develop a new piece.

From the 31st of August until the 23rd of September 2001 the Schouwburgplein square was transformed by the projection of huge interactive portraits on the façade of the Pathé Cinema building. Thousands of portraits taken on the streets of Rotterdam, Madrid, Mexico and Montreal were shown using robotically controlled projectors located around the square. However, the portraits only appeared inside the projected shadows of local passers-by, whose silhouettes measured between 2 to 22 metres high, depending on how far people were from the powerful light sources placed on the floor of the square.

When the Schouwburgplein was empty the portraits could not be seen, since the light sources on the floor completely washed them out with strong white light. As soon as people walked on the square, their shadows were projected and the portraits were revealed within them. A camera-based tracking system monitored the location of the shadows in real time, and when the shadows matched all the portraits in a given scene, the control computer issued an automatic command to change the scene to the next set of portraits. This way the people on the square were invited to embody different representational narratives. Up to 60 people took part at any given time, controlling 1,200 square metres of projections and creating a collective experience that nonetheless allowed discrete individual participation.

The shadow interface is a direct reference to Samuel van Hoogstraten's engraving *The Shadow Dance* which appears in his *Inleiding tot de Hooge Schoole der Schilderkonst*. This engraving, made in Rotterdam in 1675, shows a minute source of light placed at ground level and the shadows of actors taking on demonic or angelic characteristics depending on their size. The optical devices deployed by Dutch masters of *trompe l'oeil* and anamorphosis are the starting point for a piece trying to investigate the crisis of urban self-representation. *Body*



Movies will transform the building of a cinema into a vehicle to study the distance between people and urban representation.

Technology

Three networked computers control the installation: a camera server, a video tracker, and a robotic controller cued by MIDI signals. The camera server is a self-contained Linux box that feeds video images to a PC over Ethernet 20 times per second. The camera has a wide-angle lens and it is pointed at the façade of the Pathé building. Custom-made software programmed in Delphi analyses the video detecting the edges of the shadows. The computer vision system determines if the shadows are covering portraits in the current scene. When a portrait is revealed, its hotspot turns white and remains activated for a few seconds. A wave file sound is also triggered to give feedback to participants in the square. VU meters in the interface show the status of each portrait and the degree of darkness over the hotspot.

When all the hotspots are activated, the PC sends a MIDI signal to the robotic trigger

a complete blackout followed by a new series of portraits in completely different locations. The PC is connected to the four xenon projectors by an RS485 serial connection. The library of images consists of over 1,200 portraits on durantrans frames each 15 x 15 cm and these rolled onto the robotic scrollers.

A video projection on the square shows the computer interface, beside a printed explanation in Dutch and English. Providing public access to the interface was a crucial part of the project.



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Concept and direction: Rafael Lozano-Hemmer

Programming: Conroy Badger Crystal Jorundson

Portraits: Rafael Lozano-Hemmer, Julia Garcia,
Ana Parga, Donate Lemmo, Elizabeth Anka

Rotterdam production: V2_Organisatie,
in collaboration with the City Theatre in Rotterdam.

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Rafael Lozano-Hemmer (CDN/MEX) was born in Mexico City in 1967. In 1989 he received a B.Sc. in Physical Chemistry from Concordia University in Montreal, Canada. He works in relational architecture, technological theatre and performance art. His pieces, done in collaboration with Will Bauer, have received a Golden Nica in 2000 and Honourary Mentions at the 1995 and 1998 Prix Ars Electronica. He also won "Best Installation" at the Interactive Digital Media Awards in Toronto, a Cyberstar award in Germany, a distinction at the SFMOMA Webby Awards in San Francisco and an Excellence Prize at the CG Arts Media Art Festival in Tokyo. **Rafael Lozano-Hemmer, (CDN/MEX)**, geb. 1967 in Mexico City. 1989 graduierte er zum B.Sc aus Physikalischer Chemie an der Concordia University in Montreal, Kanada. Er arbeitet im Bereich relationaler Architektur, technologischen Theaters und Performance-Kunst. Seine Stücke, die in Kooperation mit Will Bauer entstanden, haben 2000 eine Goldene Nica und 1995 und 1998 jeweils eine Anerkennung des Prix Ars Electronica errungen. Weitere Auszeichnungen unter anderem: „Best Installation“ des Interactive Digital Media Awards in Toronto, ein Cyberstar-Preis in Deutschland, eine Auszeichnung bei den SFMOMA Webby Awards in San Francisco und ein Excellence Prize beim CG Arts Media Art Festival in Tokio. www.lozano-hemmer.com