

The Fly's Eye: Live Spatial Analysis And Deconstruction Of The Video Image

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ABSTRACT

The Fly's Eye project (2002) creates an animated document of both space and time and draws inspiration from the structure, function and significance of the eye of the fly and other processes of vision. In *The Fly's Eye*, the history of a public space or film is built in layers of position and image.

Keywords

Video analysis, installation, art, interactive, film.

1. ARTIST'S STATEMENT

My work has been placed in the realm of art, in the realm of science, and in the realm of cultural crossover between the two. Because I have been interested in creating interactive experiences, the science informing my work and research has primarily been in the area of perception, but all my projects are hybrids that feed into multiple areas of research. Like *The Fly's Eye* project, my work often involves the development of new physical human-computer interaction devices, and offers a new 'reading' of physical information that brings to view unfamiliar aspects of the information.



Figure 1. Visitors to Apex Art Gallery in Tribeca, New York, viewing the installation January, 2003.

2. INSTALLATION

In *The Fly's Eye* installation, multiple images are projected in a public space based on the movement of viewers in the space. *The Fly's Eye* 'watches' the viewer in the space while the viewer simultaneously enjoys some control and direction of the location of the image. Each time the viewer changes position, the live video feed moves and a visible trail is left on the projected image (see figure 1).

3. TECHNICAL DESCRIPTION

The Fly's Eye consists of a computer system designed to perform a real-time spatial analysis and deconstruction of a live or pre-recorded video using a custom designed interface. Each video frame is tracked and analyzed according to the location of light, color, or motion in the frame. A copy of each video frame is placed in a grid according to the results of the analysis, and a live animation is created (see figure 2).

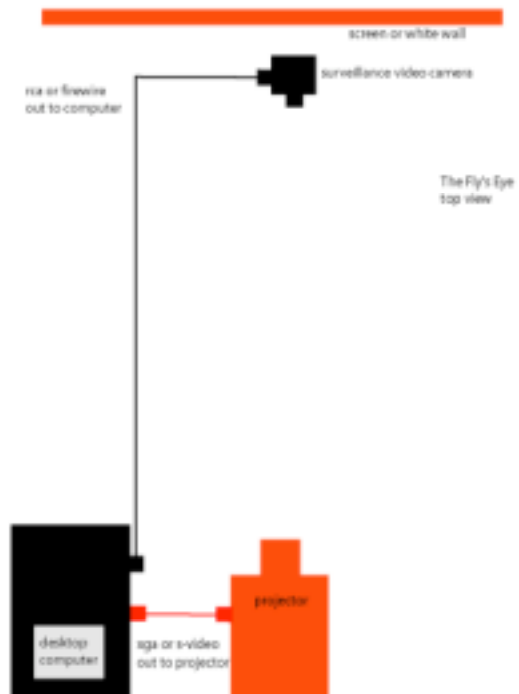


Figure 2. The Fly's Eye basic equipment configuration.

3.1 Technical Summary

- The computer performs a real-time spatial analysis of a live or pre-recorded video
- Video frames are tracked and analyzed according to the light, color, or motion in the frame.
- A copy of each frame is placed according to the results of the analysis, and a live animation is created

4. DIGITAL PRINTS

The Fly's Eye system can also be used to analyze color and lighting in films. To show the results of the analysis of several films, large format digital prints have been created.

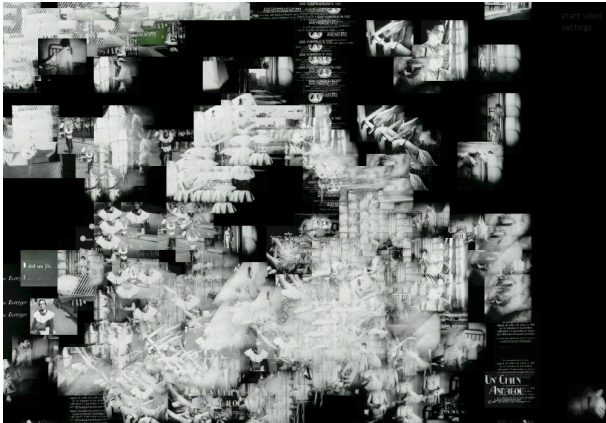


Figure 3. Detail of a lighting analysis of *Un Chien Andalou*.

These digital prints include: a lighting analysis of Fellini's *8 1/2* in which the print is divided into a grid of 28 squares, each documenting a ten minute section of the film layered over the previous ten minutes; an analysis of the location of the color red in five minute sections of the film *Moulin Rouge*; and a lighting analysis of Bunuel's *Un Chien Andalou* in which the print is divided into three rectangles each documenting a 5-10 minute section of the film (see figure 3). Prints vary in size but are approximately 66" X44"



Figure 4. An example of a movement portrait.

4.1 Movement Portraits

Another version of *The Fly's Eye* system has also been used to create a series of movement portraits. These portraits, created during a sitting of about 2 minutes, are built based on the movement of the subject. As the portrait subject moves, the portion of their image that moved is placed on the screen. Several digital prints have been created as movement portraits (see figure 4).

5. ACKNOWLEDGMENTS

The installation and/or digital prints have been shown at:

1. Apex Art Gallery in Tribeca, New York
2. Swanson-Cralle Gallery in Louisville, KY
3. Politecnico di Milano University in Milan, Italy
4. The Kunstgewerbe Museum in Berlin, Germany
5. RCA Visual in St. John's Newfoundland
6. The Aronoff Center in Cincinnati, OH
7. SIGGRAPH 03 in San Diego, CA

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