



## CAMERA-N

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"Imagine the camera as a space vehicle and not  
restricted by the person holding it."

Richard D. Zakia<sup>1</sup>

Advancement in production techniques and methods have allowed a reconfigured sense in digital moving images. We are shooting the footage, compositing in digital environment and using special effects. But the qualities of camera usage in virtual environment is considered as it is in real world cameras. The sense of camera in virtual space requires a new description. Computed camera reworks with new conditions and parameters redefining its motion and vision. This project is a set of experiments to explore new methods and properties for computed camera vision.

Using virtual camera with the behaviour of particle systems in 3d computed environment is the main process in this project. Particle systems are designed to simulate environments like water, smoke, fire, explosions etc. "A particle system is a large set of simple primitive objects which are processed as a group to represent an object. The characteristics of these objects, such as size, position, color, and the lifetime of the particle itself, can be changed dynamically. If these parameters of the particles are coordinated, the collection of particles can represent an object."<sup>2</sup>

In this project experiments are manipulated by assigning a camera for each particle and looking at an abstract sculpture through particles which are traveling on a path around it. This sculpture can be perceived as an architectural space as well. Hence paths are the information for particle motion which can be delivered from various sources like stock exchange statistics, any path drawn by hand,

network data, mathematical formulas, weather forecasts etc. In this project only the mathematical formulas are included.

Perceptual qualities and the expression of computed camera in these works aim to define a conceptual structure for its discussion and evaluation.

"Camera-n is an ongoing project and this is the first phase, please check <http://www.ucantekme.com/camera-n> for updates and next phases."

Concentration:  
multimedia & installation

Related disciplines:  
cinema, computation, HCI

Keywords:

- computed camera
- camera motion
- compositing
- montage
- pov
- viewing frustum
- cinematic space
- architectural space
- sculptural space
- virtual space
- information visualization
- interactivity
- particles
- behaviour of particles

<sup>1</sup>Zakia, Richard D. "Perception and Imaging", 2nd ed, Focal Press, p.98

<sup>2</sup>McReynolds, Tom , "Advanced Graphics Programming Techniques Using OpenGL", SIGGRAPH '98 Course