

7 objects meet is a real time interactive installation.

The graphics output of a real time program (written in C and running on a Silicon Graphics workstation) is connected to a video projector that projects the image on a big screen.

In front of the screen, on the floor, are three big buttons onto which the viewer can step. By stepping on the buttons the viewer influences the program and triggers a sound. The work is an instrument by which the viewer/player can play his own audiovisual sequences.

Structure of the program

Newtonian physical laws (gravity, collision detection, elasticity) direct the movements of seven objects which exist in a virtual world. The virtual camera is always connected to one of these objects, following its orbit and causing a subjective point of view.

By changing several parameters, such as degree of elasticity or direction and magnitude of the gravity vector for each object, certain behaviour patterns for the objects are implemented.

In principle there are millions of possibilities for combinations of all possible parameters in the program, but eleven combinations were chosen which cause clear group behaviour patterns.

The program runs by itself through the eleven behaviour modes.

If a person stands on the left or right button, he/she will cause a change in the group behaviour pattern. The program considers the viewer to be an object (he/she has become the current object, which is the one to which the virtual camera is attached) and his/her position (on the left or the right button) becomes incorporated in the calculations.

All other objects will start to approach the viewer/camera object, and stay close to it until the button is released. Depending on what was the last current group behaviour, this will cause various motion patterns of the objects.

The appearance of the objects and the way the graphics are drawn can also be changed. By stepping on the middle button the viewer can switch to the next drawing mode. Stepping on the left or right button will always cause the objects to approach the viewer/camera object, but how these changes affect the visual aspect depends on the current drawing mode.

Other changes such as a change of colors, choosing another current object and choosing another instrument, occur also, depending on what is the current drawing mode and what button was pressed. If nobody has stepped on a button for a while, the program will change to the next drawing mode by itself.

Every change in group behaviour and of drawing mode will trigger a sound, whether induced by stepping on a button or by the program itself.

Each of the seven objects has its own instrument connected to it; which instrument is played depends on the current object.

The note that is played is related to the kinetic energy of the current object. The more energy (momentum) there is in the whole system, the higher the sounds that are played and vice versa.

Technical data

The program is written in C, running on a Silicon Graphics 35GT workstation and using the SGI Graphics Library.

The graphics output from the workstation is connected to a video projector and projected on a special screen on which the image can be viewed from both sides.

The three buttons are on the floor, 50 cm apart from each other and in front of the screen at approximately 3 meters distance.

Inside each button is a micro switch that is connected via an interface to the workstation.

An ATARI computer is also connected to the workstation, receiving

data from the program and converting this data to MIDI format, which is sent to a synthesizer that produces the sounds. Loudspeakers are placed near the projection screen.

Authors & production

The work was produced at and with support from the Institut für Neue Medien in Frankfurt am Main, Germany.

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Concept and realization: Akke Wagenaar

Programming: Akke Wagenaar

Buttons interface: Bob O'Kane

Midi programming: Michael Saup

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