ABSTRACT:

MIDIVERSO is a musical and graphics interactive installation for mass-\-c groups that use Virtual Reality systems. It deepens into some musical concepts that could not be evaluated until recent dates, as the interactive composition systems for massive groups. This proposal has a narrow relationship with the Virtual Reality concepts, it defines a virtual microworld populated of sound and graphic objects, autonomous to some extent, with some determined rules and which are possible to "visit" in order to acquire a greater knowledge of their characteristics.

INTRODUCTION:

"Indians long ago knew that music was going on permanently and that hearing it was like looking out a window at a landscape which didn't stop." - John Cage

The musical application of virtual reality technology allows a new approach to the musical composition. People don't need to know how to play musical instruments to be able to participate in some of the final choices of composition. Either alone or together with the other visitors, the public can both perform the music and react according to the heard results. In order to do that, it is only necessary to push a button to hear the corresponding to the particular "one button instrument", so the learning curve would not require more than a few minutes. The original MIDaverso installation, without the graphical system, had his premiere in the Sonar festival, in Barcelona, Spain, on 1994. In the current MIDiverso version (this is a "work in progress" project), the navigation into the virtual world is the result of the interaction through the different buttons which lightly modifies the main tendency of the "virtual musical score" in its travel around the different stages. We are now working on a new version of the installation that includes a virtual reality system for graphics, integrated with the musical part, that will be presented also at the International Composer Music Seminar in Cuenca, Spain, on October 1995. In order to achieve this, we are using the Supernova Virtual Reality System, together with a Spanish software firm (RTZ Virtual Worlds) which is also planning to translate these tools to the Silicon Graphics environment.

DESCRIPTION:

The main piece of the installation has the representation of several celestial bodies (stars and constellations) on a perspexal hemisphere (diameter = 120 cm), mounted on a octagonal support, with different colors inside. The room is finely illuminated, almost dark and inside the sphere some electronically controlled lights (halogen, ultraviolet, colored), beam out through holes that coincide with the stars. The inside of the hemisphere is painted in different colors, so that it allows the light to pass through with different intensities.
There are 32 velocity response buttons, eight groups of four buttons, connected to a midi keyboard controller, that have sequences and algorithms assigned according to diverse criteria, that operates like note generators in a kind of dynamic virtual score. When the visitors push the buttons, they discover or modify the different views (windows) of the graphic and acoustic landscape, and they transform themselves into composers-performers-listeners of particular and unique sound moments. The disposition of the buttons allows several visitors to interact simultaneously on the system.

A octophonic amplification, in which the spatialization of the sound acquires great importance, completes the installation. The sound come from eight selfamplified loudspeakers, disposed octagonally in the corners and superior halves of the room, preferably of a square base. Each line of sound of the eight is independent, and is taken from a different output of a synthesizer. The generation of the midi notes is administered by means of a program, developed on the Max language with an Apple Macintosh computer, and uses prerecorded sequences interactively modified, according to a predetermined structure (score) and also to several routines of algorithmic generation. Everything is activated by the visitors in real time. In absence of interaction (waiting state) the program automatically triggers sequences and algorithms of slow cadence, alternating with periods of silence.

Figure 1: MIDIVERSO, artist’s conception. Drawing by Andrés Lecca.

IMAGES:

The computer graphics are generated, according to the musical score and the real time interactions on a Pentium computer, with Superscape virtual reality software, and they are displayed by a video projector. So, the visitors need not wear helmets or data gloves, and more people can share the experience. This projection shows abstract images with geometrical and fractal textures and objects, with altered photographs of the universe. An “artistic view” is preferable to a realistic representation of the universe. The navigation is the result of the interaction of the different buttons, which lightly modifies the main tendency of the virtual score, in its travel around the different stages. The video projection will take place on one wall of the installation, below the loudspeakers.

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