

Gridjam Performance as a Paradigm for Scientific Collaboration

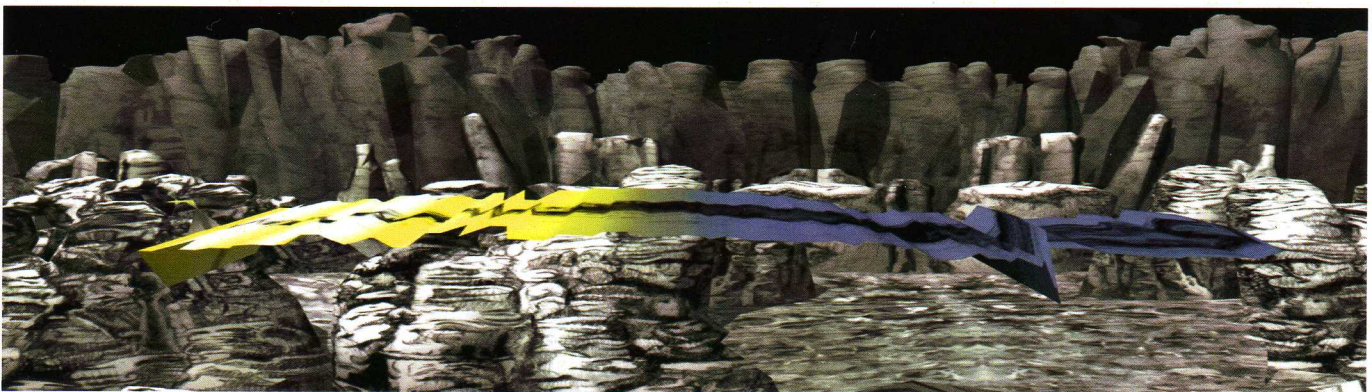
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GridJam is a real-time, geographically distributed, multimedia event. It is an experimental project bringing together a visual artist, composer, musicians and computer scientists, while using the high-speed, low latency, international National LambdaRail optical network. It demonstrates real-time, low latency, interactive, distance computing through the complexity of a live, partly improvised, 3D visualized, musical performance, functioning as both a world-class work of art and a research project into high performance collaborative network computing. This multi-media performance serves as a paradigm, enabling creation of the necessary infrastructure for the **Global Intermedia Gateway** or **GIG**. The GIG is a program of education, research,

and engagement with the world. It is a modular platform designed for distributive improvisation and collaboration. The primary design concept is that geographically distributed collaborators are placed in a virtual environment conducive to their collaboration and oriented to each other as if they were in the same room.

Project partners at several institutions are currently developing some of the key modular components that will achieve this and will become parts of the GIG toolkit. These include specially designed and adapted "Soundscape" software to accommodate special interactivity and latency conditions for multichannel audio streaming (Peter Otto, University of California at San Diego). It will also include a 3D Avatar

system that places photo-realistic representations of collaborators inside an immersive environment (Pierre Boulanger, University of Alberta). This will enable participants to react to body language and facial expressions.

The GIG will use Flatland as its virtual reality immersive platform. Flatland is an open source API created at the University of New Mexico that provides basic immersive rendering functionality, multimodal user input paradigms, distributive interaction over TCP/IP, data logging and capturing, and other features relevant to the GIG. Flatland is used for scientific visualization and immersive simulation.

