Networked   Virtual   Reality

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The Networked Virtual Art Museum

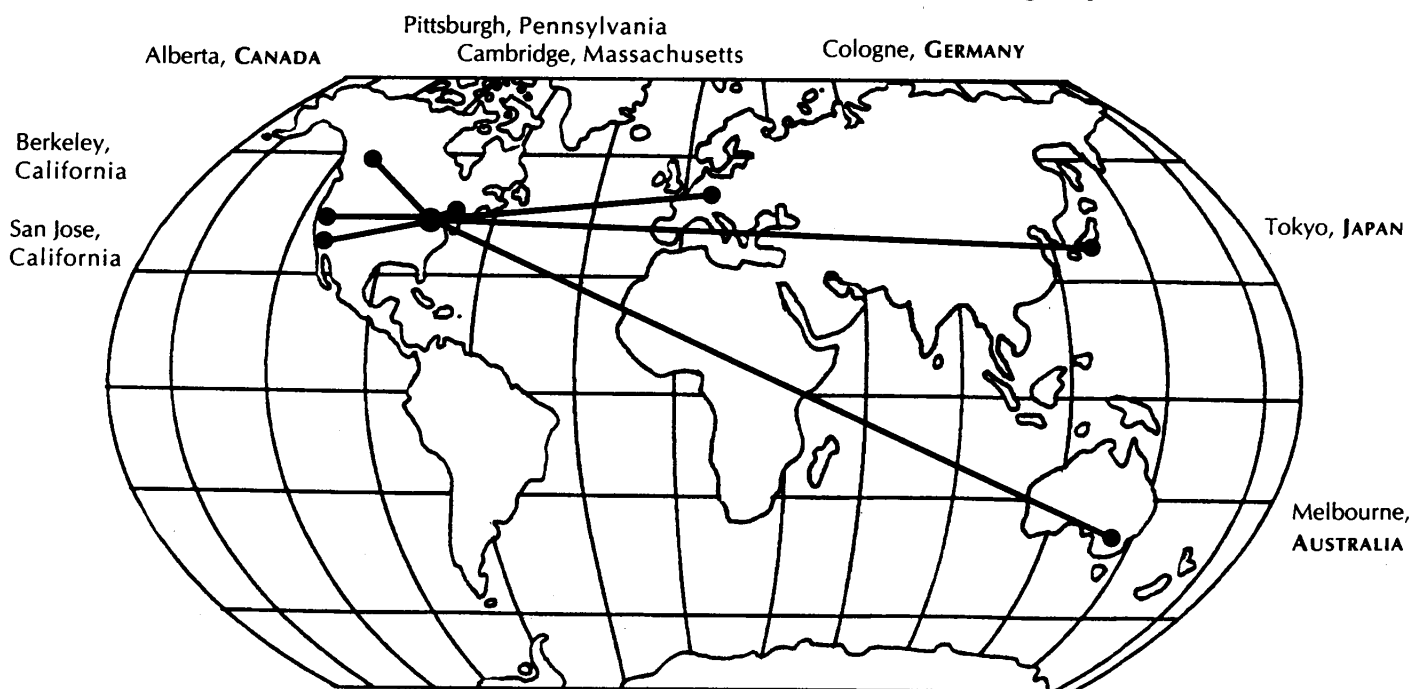Carl Loeffler, Project Director

> The Networked Virtual Art Museum project supports the design, development and operation of long-distance, multiple-user, networked virtual reality environments.

The project team is designing and constructing a multi-cultural art museum articulated through networked virtual reality and established by a grid of geographically distributed participants. The nodes are interconnected using modem-to-modem or high bandwidth telecommunications. Each participating node will have the option to interact with the virtual environment and contribute to its shape and content. Participants are being invited to create new galleries, install works, or commission researchers and artists to originate new works for the museum. Further, guest curators will have the opportunity to organize special exhibitions, explore advanced concepts, and formulate the basis for critical theory pertaining to virtual reality and cultural expression. The museum will function as a stand-alone installation and will be easily transportable for presentation in cultural or industrial venues.

Project Goals

- To investigate long-distance, multi-user networked virtual reality (VR) environments with applications for immersive work stations, paperless offices and cultural and educational projects.
- To develop high speed modem-to-modem networked VR with remote sites.
- To develop full motion networked VR employing high bandwidth telecommunications.
- To document multiple-user interaction and behavior, and to establish multi-user communication protocol within networked immersion environments.
- To utilize artificial intelligence to create agents and guides for immersion environments, and the programming of intelligent architecture and "smart-rooms."
- To contribute to the formation of critical theory pertaining to virtual reality and multicultural groupware.

Alberta, CANADA · Pittsburgh, Pennsylvania · Cambridge, Massachusetts · Cologne, GERMANY · Berkeley, California · San Jose, California · Tokyo, JAPAN · Melbourne, AUSTRALIA

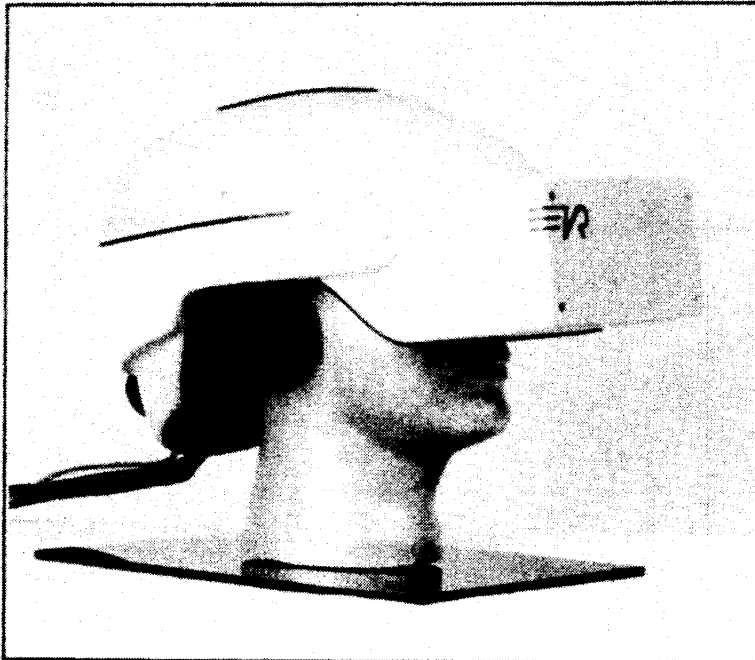Carnegie Mellon · College of Fine Arts

Originating Node

The STUDIO for Creative Inquiry, Carnegie Mellon University, is the originating node and will install the main lobby for the Virtual Art Museum. Nodes will design adjoining wings or galleries, complete with artworks. A special gallery will accommodate additional exhibitions of artworks and creative investigations.

First External Node

The first external node to the network will be located in Japan. Sponsored by Asahi Electronics, Ltd, the anticipated site is a university or technical institute, with scheduled interface to begin Spring, 1992. The Japanese-American team from Interactive Management Associates, Tokyo, and Kala Institute, Berkeley, have conceived Renaissance Perspective, the premier exhibition.

Additional Nodes

The additional nodes will be located in Australia, Canada, Europe, and points in the United States, with linking scheduled to begin Fall 1992 and continue throughout 1993.

First Stage:

Initial technical demonstration, Summer, 1992. Construction of virtual world, local area test of networking software. Connection with Japanese site and first demonstrations of modem-to-modem networked virtual reality, employing two remote sites. Extensive documentation of multiple-user interaction, behavior, and groupware process. Connectivity: Employment of NASA terrestrial lines between United States and Japan, via Hawaii.

Second Stage:

Technical demonstration, Fall, 1992. Identification of additional sites and construction of virtual worlds. Demonstration of modem-to-modem networked virtual reality, employing multiple sites. Introduction of agents and intelligent architecture. Documentation of groupware. Upgrading of computing speed and image resolution.

Third Stage:

Technical demonstration, Spring, 1993. Demonstration of full motion networked virtual reality, employing high bandwidth telecommunications linking multiple remote sites.

Virtual Research Head-Mounted Display

Carl Loeffler, currently a Research Fellow in the STUDIO for Creative Inquiry, is an innovator in electronic media and art, founding programs, lecturing around the world and directing activities in this developing field.