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## ATLANTA'S HIGH-TECH EDGE: PRESENTATION SYSTEMS USED TO WIN 1996 OLYMPICS BID WILL BE SHOWN AT ICA '92

Two multimedia presentation systems that gave Atlanta a high-tech edge in its winning bid to host the 1996 Summer Olympics will be on display at the International Communications Association Conference and Exposition May 19-21 in the Georgia World Congress Center.

Developed by Georgia Institute of Technology scientists, the systems allowed members of the International Olympic Committee (IOC) to take their own self-guided tours of the Atlanta sites which will house Olympic events -- including facilities not yet constructed. The interactive systems also provided detailed information about the Atlanta's resources.

Based on two videodisc players and a Macintosh



*The computer-generated "Golden Athlete," featured in Atlanta's bid for the 1996 Summer Olympics, was created through unique motion capture techniques.*

computer, the first presentation system is compact and designed to be easily transported. Combining aerial photography, satellite images and high-resolution graphic modeling, it provides a "magic carpet ride" tour of the Atlanta metropolitan area.

The system opens with a three-minute "fly-through" which starts from space and zig-zags through the North

Georgia mountains before hurtling through a building which housed the Atlanta Organizing Committee's office.

Following that sequence, viewers direct their own tour by rolling a track ball to move around a computerized map of the Atlanta area. As the track ball moves on the map screen, a larger monitor

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shows points of interest and special presentations. Renderings of proposed Olympic buildings materialize on their proposed sites, and viewers can even take a peek inside.

### **Living in the Athlete Olympic Village**

The larger and more complex second system was first shown in Tokyo at the International Olympic Committee's location decision meeting in September of 1990. It uses three videodisc players, three computers, computer-composed music, digitized narration and a unique interaction system based on a touch-sensitive model of the Georgia Tech campus -- where athletes competing in the games will be housed.

"We wanted to make this more entertaining than the other bid presentations they would see," explained Michael J. Sinclair, co-director of Tech's Multimedia Technology Laboratory. "But we wanted to tell the audience about transportation, medical facilities, entertainment, training facilities, housing and dining."

As they did with the earlier presentation, the developers relied heavily on computer-generated renderings of the proposed buildings. An architectural firm provided a database of information about a proposed dormitory, and the scientists used that to create a rendering which allows viewers to fly around the building before entering remarkably realistic interior space.

"We took a lot of time to computer decorate the inside of the bridge between the two proposed buildings," Sinclair explained. "We put in country flags, large easels with portraits of Olympic Committee presidents, marble columns, a checkerboard tile floor and the Atlanta Organizing Committee (AOC) logo."

The presentation system uses a unique touch-sensitive three-dimensional model of the Georgia Tech campus. The translucent model is animated from below by a special projection system using graphics generated by an Apple Macintosh. Along with the music, all narration was digitally stored on an Amiga computer, which coordinates all activities of the presentation system.

To complete the project on time and with a limited budget, the scientists had to overcome a number of daunting challenges which required technological solutions.

"Because of our rather limited budget, we had to find technical solutions rather than brute-force human solutions," explained Sinclair. "We experimented with quite a few different techniques. In many cases, they proved to be more efficient solutions from the standpoint of time and money."

### **The Multimedia Technology Laboratory**

Development of the systems led to formation of Georgia Tech's Multimedia Technology Laboratory, which is now developing other multimedia technologies -- and working in other areas such as distance learning.

"One of the acknowledged problems we have is the re-inventing of the American work force," said Frederick B. Dyer, co-director of Tech's Multimedia Technology Laboratory. "People must be trained in new skills. We think that embodied in these concepts of multimedia, distance learning and related areas is the use of technology to attack this kind of problem."

Dyer argues that by bringing training programs into the apartments and job sites of single parents and other disadvantaged workers, multimedia technology can help develop the skills needed in the 21st century workplace. Multimedia will also have a major impact on traditional education in the public schools, universities and technical training centers, though its unique strengths may best be used to serve individuals not now reached by those programs, he believes.

"The revolution will happen in finding a better way to provide life-long learning experiences," Dyer adds. "Currently, that isn't very easy. As a premiere technological institution, Georgia Tech has the opportunity to be a leader in using technology to help address social problems."

The Multimedia Laboratory is at the center of campus multimedia effort that involves about a half-dozen research and service groups.

With the support of industry, Tech is also launching the Georgia Center for Advanced Telecommunications Technology (GCATT) which will help spur growth in that industry. Among other goals, GCATT will bring together under a single focus the networking and distance learning efforts of the state.