



GEORGIA TECH VIDEO:

FASTER, LESS EXPENSIVE ANIMATION AND MODELING WITH 3-D OPTICAL DIGITIZER

March 17, 1992

Producing detailed computer displays of three-dimensional objects could become easier and more widespread with the "3-D Optical Digitizer," a device developed at the Georgia Institute of Technology's Multimedia Technology Laboratory.

The digitizer provides basic computer descriptions used in animation, modeling and visualization by film and television producers, reconstructive surgeons, industrial designers, scientists and others. The device would eliminate the arduous, lengthy task of developing a description by hand with pen digitizers and other tools. It could also make multimedia modeling processes less expensive and more widely available, says Mike Sinclair, co-director of the Multimedia Laboratory.

VISUALS AVAILABLE:

***"Golden Athlete" featured in Atlanta's multimedia bid for 1996 Summer Olympics.**

***Computerized bust of Georgia Tech President John Patrick Crecine.**

***Scanned-in representation of researcher Mike Sinclair's head.**

***Interviews with Sinclair, co-director of the Multimedia Laboratory, and Robert Gemmell, consultant with Georgia Tech's Advanced Technology Development Center.**

about the contours and shape of the object. Then, with help from proprietary electronic equipment, the video information is converted to the mathematical form computers use to model complex objects. At that point the basic description can be manipulated and improved upon by artists and designers using a variety of computerized tools.

The digitizer's creation of a computerized description begins when an object is placed on a rotating, lighted turntable. Three video cameras record information

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Georgia Tech's optical digitizer is unusual because it can record details of large objects, including the full human figure, Sinclair said. In fact, the process of hand-digitizing the entire figure of the "Golden Athlete" featured in Atlanta's multimedia bid for the 1996 Summer Olympics led to the equipment's development. The digitizer also was used to create a computerized, talking bust of Georgia Tech president John Patrick Crecine for a video promoting a new student service facility.

A complete scanning-animation system running on a high-end personal computer and relying on the optical digitizer might sell for around \$15,000 compared to currently available systems that do the same type of work and cost \$100,000 each, Sinclair said.

Among the potential applications for the digitizer are scanning a patient's head into a computer to show the expected effects of reconstructive surgery; and creating computer-aided design models of existing products.

Additional development is needed to produce a commercial prototype -- that effort is supported by a grant from Georgia Tech's Faculty Research Commercialization Grant Program. Sinclair hopes to license the technology to a company that would produce the digitizer commercially.

In the meantime, the Multimedia Laboratory is offering scanning services to clients to further develop the device and provide its services to those who need them.

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If you are interested in reporting on this project and need more information or missed our March 17, 1992 satellite feed, please call David Kennedy at (404) 894-2453 or Lea McLees/John Toon at (404) 894-3444. For additional information about the digitizer, call Robert Gemmell at (404) 853-0471. Our satellite feeds are scheduled 3 to 3:15 p.m. each Tuesday through May 26, 1992, at coordinates Westar 5, Transponder 24, Audio 6.2/6.8.