Next SIGGRAPH Meeting is
Tuesday, October 11th, 1988,
Hollywood Roosevelt Hotel, 7000 Hollywood Blvd., Hollywood,
1 1/2 blocks East of La Brea Blvd. Social Hour: 6:30 pm,
Program "Ray Tracing For The Masses" at 7:30 pm.
Meeting is $2.00 for L.A. SIGGRAPH members, $4.00 for non-members.

Meeting description on page 2.
Ray Tracing For The Masses

of broadcast quality graphics and animation. Low cost ModelMaker products complete the line, with a full selection of 3-D solid modeling capabilities, including interface to CAD-oriented applications, for users who do not require animation.

The speakers at our meeting will be Edwin P. Berlin, Jr., founder and Chief Technical Officer, and Peter A. C. McBride, Vice President of Marketing. Mr. McBride will explain the background of the company and describe the many Cubicomp products. Mr. Berlin will speak on a recent innovation, “Ray Tracing For The Masses.” He will explain the problems in implementing this technique, and the efforts at Cubicomp to produce a practical ray tracing solution.

Ray Tracing For The Masses
Edwin P. Berlin, Jr.

Ray tracing is a method of producing computer-generated images of 3-D objects which have sophisticated surface properties. In its simplest form, ray tracing traces light rays backwards from the eye, through each pixel on the screen and into the mathematical representation of the scene. When a ray hits an object, a shading computation is performed and other rays may be cast. If the surface is reflecting, a

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is intersected with the plane of the polygon in question and computation is performed to determine a normal vector at the intersection point. Similar computations using the same interpolation coefficient may be used to produce texture and bump map data.

The software we developed selectively uses ray tracing without making the rendering take significantly longer. For example, someone might build a model of a room. A mirror could be put on a wall with little impact on the total rendering time. Some aspects of an image are accomplished with ray tracing while others are not. In a given scene, only shadows cast on the floor may be important. Users may be highly selective in choosing when or when not to apply ray tracing.

Finally, all this was made to work with our existing PictureMaker system on the RACE platform. All code is written in C for maintainability. We currently have well over 100 customers with this once rare capability. Edwin P. Berlin, Jr.


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### Classifieds

**EMPLOYMENT**

**GRAPHICS INSTRUCTORS NEEDED** (Part-time) at Fullerton College, beginning Spring semester, 1989. Teach Intro. to Computer Graphics; 2-D Computer Graphics and Paint; 3-D Computer Graphics; Solid Modeling/Full Color Paint; Desk Top Publishing; or Computer Animation: 3-D Motion Graphics. Extensive experience in these areas desirable; previous teaching experience preferred. The lab uses the following programs working in the MS DOS environment: 42 Zenith work stations running an 8088/8087 configuration. Application Programs used in the Intro classes are: Versacad, Dr. Halo III, Megacad, Sidekick, plus MS DOS and Edlin. Desk Top Publishing: MS DOS, Windows and Aldus Pagemaker. 3-D/ Solid Modeling/Animations: 13 stations using Cubicomp’s Model Maker 100 Picture Maker 20’s and 30’s, Lumen, and True Color Paint.

Must possess or be eligible for and obtain a valid California Community College credential authorizing service in the appropriate subject matter area. Salary commensurate with education and experience.

Send letter of interest, resume indicating educational background and full description of teaching experience, list of completed coursework relevant to the position, and names of three references to the following: Personnel Office, North Orange County Community College District, 1000 North Lemon St., Fullerton, CA 92634. **DEADLINE DATE FOR APPLICATION: NOV. 15, 1988.**

**DATA BASE EXPERT FOR VMS TO UNIX CONVERSION PROJECT.** Large company - L.A. area location. Hands-on manager with communication, accounting and distribution skills. B.S. in Computer Science, must know UNIFY, RPG programmer desired. Send resume to the Editor at 2950 Los Feliz Blvd., Suite 102, Los Angeles, CA 90039.

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**TRAINING**

**CHUCK SECOR PRODUCTIONS:** Animation Classes: Video Works II, Adobe ‘88 and art - sound management techniques on the Macintosh II, with scanner and music digitizing. Morning and Afternoon Sessions. P.O. Box 7677, Glendale, CA 91205; 213-664-2914.


**PAINT BOX PLUS:** 10 week course on the Quantel Paint Box. Info: Stephanie Slade at (213) 856-8530.

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**WANTED**

**USED GRAPHICS BOARDS WANTED:** TARGA 32 or 24, EGA or VGA, also composite to RGB encoder. Contact the Editor, Randy Randall, at 2950 Los Feliz Blvd., Suite 102, Los Angeles, CA 90039; (213) 661-7725.

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**SERVICES**

**LEASING OF HIGH TECHNOLOGY PRODUCTS:** Equitable Life Leasing, 540 N. Golden Circle Dr., Suite 115, Santa Ana, CA 92705.


**VISTA 2D GRAPHICS & BROADCAST BETA-SP EDITING, 3/4” DUBS:** Timestream Video, 11821 N. Circle Dr., Whittier, 213-699-8797.

**VIDEO EQUIPMENT RENTALS:** Inter Video / TriTrons Inc., 733 N. Victory Blvd., Burbank, CA 91502; 818-843-3633.

**VIDEO EQUIPMENT RENTALS:** CMTV, 1900 W. Burbank Blvd., Burbank, CA 91506; 818-843-6644.

**LINOTRONIC STATS FOR PRINTING:** Direct from your Computer: Alpha Graphics, 115 Eest Broadway, Glendale: 818-243-5694.

**COMPUTER RENTAL CENTER:** Rents IBM, Compaq, Macintosh, IBM compatibles, printers, H.P. Laserjet II and Apple Laserwriter. Serving the So. Calif. region. 818-797-6784.

**COMPUTER NOISE DRIVING YOU CRAYZ?** Acoustic Analysis & Solutions: George Augspurger, P.O. Box 39536, L.A. CA 90039; 213-660-9351.

CAL ARTS: Sch. of Film & Video: 13 wk cert., BFA & MFA, CG in conj. w/ other major. Wavefront, Cubicomp, Amiga, CMX video editing, DVE, 16 mm film. 24700 McBean Parkway, Valencia, CA 91355; Vibeke Sorensen, 805-255-1050.


RANCHO SANTIAGO COLLEGE: 13 wk cert., degree program, CG in conj. w/ other major. Intro to CG; Beg. & Adv. Modeling; Beg. & Adv. Animation. Cubicomp, IBM AT, Matrix PCR. 17th St. @ Bristol, Santa Ana, CA 92706; Sharon Ford, 714-667-3000.

FULLERTON COLLEGE: 18 wk cert. in CG & Animation. Intro to CG; Modeling; Paint; Desktop Publishing. Cubicomp, Zenith AT, plotter & printer. 321 E. Chapman Ave., Fullerton, CA 92634; Todd V. Glen 714-992-7351.

U.C.L.A.: 13 wk cert., BFA & MFA degree program, CG in conj. w/ other major. Fall Ext. Classes: CG I - An Intro; Intro to Compact Disc Interactive; Intro to VideoWorks II; Adobe Illustrator 88; Intro to... Computers in Print, Elec. Transmission, Multimedia & Film; Intro & Intermediate to Adv. Desktop Publishing; Device Independent CG; Adv. Software Modeling Tech. in Engineering; Simulation & Models. Wavefront, Cubicomp, IBM AT (+ others), video, 16 mm film. Programs & equipment avail. depends on dept. CG classes offered by Dept. of Film & TV, Engineering Dept., Art/Design Dept. and U.C.L.A. Extension. P.O. Box 24901, Los Angeles, CA 90024; John G. Watson, 213-206-8503.