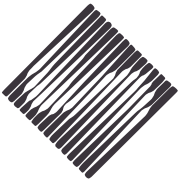
ACM SIGGRAPH VIDEO REVIEW



ISSUE 71

SIGGRAPH '91
Electronic Theatre

part 1 of 2

Table of Contents

ACM SIGGRAPH
Video Review
Issue 71

SIGGRAPH '91 Electronic Theatre

part 1 of 2

Electronic Theatre Chair
Sally N. Rosenthal

Electronic Theatre Director
Johnie Hugh Horn

Special thanks to:
Susan Amkraut, Mike Bailey, Maxine Brown, Carol Byram, Loren Carpenter, Huguette Chesnais, Donald Gaubatz, William & Deborah Gibson, Robin Hathaway, Jeffrey Lane, Ian McDowall, Molly Morgan-Kuhns, Ladd McPartland, Lucy Petrovich, Stuart Pettigrew, Sylvie Rueff, Dan Sadowski, Lance Scott, Karl Sims, Kathy Tanaka, MacroMind Director, Ars Electronica, big Research, Breene Kerr Productions, Digital Equipment Corporation, Editel SF and Chicago, HD/CG New York, Kubota Pacific Computer, Inc., Opcode Systems, Sony Corporation

For information regarding the purchase of SIGGRAPH Video Review tapes, contact:

SIGGRAPH Video Review
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1. SIGGRAPH '91 Audience Participation

Time *8:00*

Contact:
Loren Carpenter
Pixar
1001 West Cutting Blvd.
Richmond, CA 94804
USA
tel 415-236-1000
fax 415-236-0388

Summary:
A first time anywhere interactive experiment, consisting of a live audience, reflectors, lights, video cameras, frame grabbers, computers, and lots o' software.

Produced by:
Loren Carpenter

Hardware:
486 PC, SGI IRIS Vision, Truevision AT-VISTA

Software:
Custom

2. Digitaline

Time 1:30

Contact:
Jean Francois Matteudi
Agave S. A.
67 Rue Robespierre
CAP 108 93558
Montreuil Cedex
France
tel 33-1-48-57-89-06
fax 33-1-48-57-93-32

Summary:
Finger Games — Naughty Games

Produced by:
Agave S. A.

Hardware:
Apollo and Hewlett-Packard workstations

Software:
Synthetic Video

3. Water Caustics

Time 0:30

Contact:
Mark Watt
22 Rue Hegesippe-Moreau
75018 Paris
France
tel 33-1-4387-5858
fax 33-1-4387-6111

Produced by:
Digital Pictures

Summary:
Two short sequences which illustrate the pattern light makes when refracted through water.

Produced by:
Digital Pictures

Hardware:
Silicon Graphics

Software:
Digipix

4. Memory of Moholy-Nagy (excerpt)

Time 0:45

Contact:
Tamas Waliczky
H-1011 Budapest
Markovits Ivan Utca 4 V/21
Hungary
tel 36-1-202-0061
fax 36-1-131-5307

Summary:
An animated journey through the abstract colors, compositions, and constructions of the Hungarian artist Lazlo Maholy-Nagy.

Produced by:
John Halas, Educational Film Center (London)

Hardware:
IBM 386/286, VISTA board, VISION 16 board, SONY BVU-950

Software:
TOPAS, TIPS

5. Nintendo Dragon

Time 0:15

Contact:
Jill Hunt
Angel Studios
5677 Oberlin Drive
Suite 101
San Diego, CA 92121
USA
tel 619-452-7775
fax 619-452-8073

Summary:
Using the organic modeling features of SCENIX proprietary software, Angel Studios created a fully-detailed, organic model intact with subtle surface qualities and body articulations for unique, fluid movements. SCENIX also synchronized the particle-system fire to the dragon dynamics. The lifelike representation of this fantasy dragon exemplifies the future of computer entertainment technology.

Produced by:
Studio Productions, Hollywood

Hardware:
Silicon Graphics workstations

Software:
SCENIX proprietary, Wavefront

6. Magellan at Venus

Time: 1:30

Contact:
Betsy Hall
Jet Propulsion Laboratory
4800 Oak Grove Drive
M/S 168-522
Pasadena, CA 91109
USA
tel 818-354-0225
fax 818-393-6962

Summary:
Computer animation techniques create a simulated flight over the surface of Venus using radar mapping data recorded by the Magellan spacecraft during September and October of 1990. Simulated color approximates hues which might be seen by the human eye, based on color images from the Soviet Venera 13 and 14 spacecraft. The 3D map of the surface was produced by combining Synthetic Aperature Radar (SAR) images, altimetry data, and radarclinometry.

Produced by:
Solar System Visualization Project at the Jet Propulsion Laboratory - California Institute of Technology Digital Image Animation Laboratory (DIAL), JPL Multimission Image Processing Laboratory (MIPL), JPL National Aeronautics and Space Administration.

Hardware:
Solbourne 5E/900, DEC Vax 8650, DEC MicroVax 3800

Software:
VICAR, JPL's image processing software, and in-house 3D and rendering software

7. Leaf Magic

Time: 1:15

Contact:
Alan Norton
IBM T.J. Watson Research Center
P.O. Box 704
Yorktown Heights, NY 10598
USA
tel 914-784-7195
fax 914-784-6273

Summary:
A group of wind-blown leaves cavorts in a playground. Realistic leaf motion is generated using a physically-based aerodynamic model.

Produced by:
IBM T.J. Watson Research Center

Hardware:
IBM RS/6000, Silicon Graphics 240 GTX

Software:
Physically-based simulation and ray-tracing proprietary (T. Kay)

8. Voyager

Time: 0:30

Contact:
Anne Van Ogtrop
Valkieser Group B.V.
S'Gravelandseweg odo a
1217 EW Hilversum
Holland
tel 31-35-234-858
fax 31-35-232-711

Summary:
Two parts of an antique map rise from a globe of the world and melt together into a ball, which rolls through a timeless museum-like space.

Produced by:
Valkieser Group

Hardware:
IRIS 4D, Harry paintbox

Software:
Wavefront

9. Lifesavers: The Good Times Roll

Time: 0:35

Contact:
Chris Wallace
Topix Computer Graphics and Animation Inc.
217 Richmond Street West
2nd Floor
Toronto, Ontario M5V 1W2
Canada
tel 416-971-7711
fax 416-971-6188

Summary:
A Lifesavers roll proves its musicianship as it careens across a piano, guitar, and drums to a "Jerry Lee Lewis meets Stevie Ray Vaughn" sound track. The right hand movements of the studio pianist were converted from MIDI to drive the animated piano keyboard.

Produced by:
Topix Computer Graphics and Animation Inc.

Hardware:
Silicon Graphics Computer Systems

Software:
Wavefront Technologies

10. unNatural Phenomena

Time: 1:47

Contact:
John C. Hart
Electronic Visualization Laboratory
EECS Dept. M/C 154
Univer. of Illinois at Chicago
Chicago, IL 60680-4348
USA
tel 312-996-3002
fax 312-413-7585

Summary:
The parameter space of 3D linear fractals is explored via continuous interpolation from a forest of elms, spruces, and twindragon grass, to massless fractal extensions of Pluto's solids, such as Menger's Sponge and Von Kosh's Snowflake-a-hedron.

Produced by:
John C. Hart

Hardware:
AT&T Pixel Machine 964dX, Sun 4 and Truevision Vista board

Software:
Proprietary modeling and rendering "C" code, DEV tools, Stage

11. Enter the Elgin

Time 2:09

Contact:
Pat Hunter
Alias Research, Inc.
110 Richmond St. East
Toronto, Ontario
M5C 1P1 Canada
tel 416-362-9181
fax 416-362-0630

Summary:
An architectural fly-through of the Elgin Theatre was created for the galas of the 1990 Toronto International Film Festival.

Produced by:
Alias Research, Inc. and Design Vision, Inc.

Hardware:
IBM RS 6000, Silicon Graphics

Software:
Alias

12. Poems of Ernst Jandl (Gedichte V.E.)

Time 2:05

Contact:
Eku Wand
Pixel Park GmbH
Reuchlinstrasse 10-11
W-1000 Berlin 21
Germany
tel 49-30-344-9061
fax 49-30-345-5493

Summary:
Poetic visions from the work of poet Ernst Jandl are transformed into computer images, creating a relationship between the computer and the human mind. The purely systematic and analytic nature of a computer is appropriate for this study, as these are the methods used by Ernst Jandl. A talking screen is created by applying Dadaist principles to Jandl's work.

Produced by:
Eku Wand

Hardware:
Amiga 2000

Software:
Deluxe Paint II Digitizer

13. Visualization of Battlefield Obscurants

Time 1:10

Contact:
Geoffrey Y. Gardner
Grumman Data Systems
MS D12-237
1000 Woodbury Road
Woodbury, NY 11797
USA
tel 516-682-8417
fax 516-682-8022

Summary:
Textured ellipsoids are used to visualize time histories of a variety of battlefield obscurants generated from a U.S. Army physical model. Dr. Donald Hoock developed the Army model.

Produced by:
Geoffrey Y. Gardner

Hardware:
Silicon Graphics Personal Iris

Software:
Fortran 77 Grumman proprietary

14. Operation C

Time 0:25

Contact:
Larry Lamb
Lamb & Company, Inc.
1010 South 7th Street
Suite 600
Minneapolis, MN 55415
USA
tel 612-333-8666
fax 612-333-9173

Summary:
An action-packed, character-oriented work developed for computer game manufacturers.

Produced by:
Lamb & Company, Inc.

Hardware:
Silicon Graphics IRIS 4Ds, Abacus A60

Software:
Wavefront Technologies, Lamb & Company proprietary

15. The Ancient World Revisited (excerpt)

Time 0:45

Contact:
Makoto Majima
Taisei Corporation
Design & Proposal Division
25-1, Nishi-Shinjuku
1-Chome,Shinjuku-ku
Tokyo 163 Japan
tel 81-3-3348-1111
fax 81-3-3345-6256

Summary:
This animation was originally produced for the NHK documentary series "The Treasure of the British Museum." It aims to reproduce as accurately as possible the architecture and cityscapes of ancient civilizations such as Ur, Absimbel, and Tinochtitlan, based on archaeological and architectural data. Produced in HDTV.

Produced by:
Taisei Corporation

Hardware:
VAX8530, Symbolics, IRIS 4D/25TG & IRIS 4D/240S

Software:
GDS, Symbolics, Links, Explore

16. Evolution of Gravity & Effective Topography on Phobos

Time 02:50

Contact:
Wayne Lytle
Cornell National Supercomputer Facility
619 Theory Center Building
Cornell University
Ithaca, NY 14853
USA
tel 607-254-8793
fax 607-254-8888

Summary:
Using data collected by Viking spacecraft, this visualization depicts the effects of Martian tidal forces on Phobos, the larger of Mars' two moons. Phobos is approximately the size of Manhattan.

Produced by:
Wayne Lytle

Hardware:
Tek XD88/30 (set-up)
IBM RS/6000 (rendering)

Software:
Rendered with Wavefront Advanced Visualizer

17. Clear Mind & Kooshkin

Time 0:50

Contact:
Dobbie Schiff
MetroLight Studios, Inc.
5724 West 3rd Street
Suite 400
Los Angeles, CA 90036
USA
tel 213-932-0400
fax 213-932-8440

Summary: Clear Mind
Fluidity of head shape in Clear Mind is achieved by moving various wave patterns through a geometric database. Particle system effects are used to create illusions, including smoke, aerosol spray, and waterfalls.

Summary: Kooshkin
Kooshkin was created as an experimental piece to demonstrate strand dynamic simulation.

Produced by:
MetroLight Studios, Inc.

Hardware:
Alliant FX40-4, A 60 Abekas, Solbourne 5-604, Celco Film Recorder, Silicon Graphics workstation

Software:
MetroLight Propriety Software

18. Broadcast Designers Association Open

Time 0:25

Contact:
Helene Plotkin
Xaos Inc.
350 Townsend Street, #101
San Francisco, CA 94107
USA
tel 415-243-8467
fax 415-243-9562

Summary:
Completely synthetic imagery is used to create a black and white animated woodblock effect.

Produced by:
Xaos Inc.

Hardware:
Silicon Graphics workstation
Abekas A60

Software:
Xaos proprietary

19. Cosmological N-Body Simulations

Time 0:45

Contact:
Peter Richards
Massachusetts Institute of Technology
Technology Licensing Office
Building E 32-300
28 Carleton Street
Cambridge, MA 02139
USA
tel 617-253-6966
fax 617-258-6790

Summary:
Cosmological N-Body Simulations model the formation and clustering of galaxies, using large numbers of particles representing clouds of dark matter, which move according to Newton's laws in an expanding universe.

Produced by:
Massachusetts Institute of Technology

Hardware:
IBM 3060 600J Supercomputer

Software:
Particle-Mesh N-Body code by Ed Bertschinger and Jim Gelb

20. Don Quichotte

Time 2:20

Contact:
Alain J. Guiot
Videosystem
107 Rue du Fg. St. Honore
75008 Paris
France
tel 33-1-42-56-42-33
fax 33-1-45-63-68-35

Summary:
In the famous episode of the battle against the windmills, Don Quichotte demonstrates the ability of computer graphics to animate a hero of mankind's collective imagination, linking a long-standing myth to state-of-the-art technology.

Produced by:
Videosystem

Hardware:
Silicon Graphics 4D-25, 4D-380VGX, Polhemus Tracker

Software:
Explore TDI

21. NASA Ames Virtual Windtunnel

Time 1:30

Contact:
Steve Bryson
MSTO45-1, NASA Ames Research Center
Moffett Field, CA 94035
USA
tel 415-604-4524
fax 415-604-3957

Summary:
Computational fluid dynamics techniques are used to simulate a virtual environment for the visualization of 3D fluid flow structures.

Produced by:
Steve Bryson and Creon Levit

Hardware:
Boom - Fake Space Labs
Glove - VPL Research
Rendering - Silicon Graphics

Software:
Proprietary

22. 20 Begonias

Time 1:30

Contact:
Pierre Dinouard
Laboratoire de Modelisation
du CIRAD
B.P. 5035
34032 Montpellier Cedex 1
France
tel 33-67-615-995
fax 33-67-615-820

Summary:
Observations of begonias by botanists at the Laboratoire de Modelisation du CIRAD are converted into statistical laws to create 3D images of the measured plants.

Produced by:
Laboratoire de Modelisation du CIRAD

Hardware:
Silicon Graphics Iris 4D/25

Software:
AMAP

23. Wet Science

Time 2:55

Contact:
Helene Plotkin
Xaos Inc.
350 Townsend Street
Suite 101
San Francisco, CA 94107
USA
tel 415-243-8467
fax 415-243-9562

Summary:
A moving collage of swirling color and animated organic surfaces demonstrates custom software techniques. Xaos Inc., Michael Tolson, Ken Pearce, Mark Malmberg.

Produced by:
Xaos Inc.

Hardware:
Silicon Graphics workstations, Abekas A60

Software:
Xaos proprietary

24. PDI Morph Reel

Time 2:00

Contact:
Deborah Giarratana
Pacific Data Images
1111 Karlstad Drive
Sunnyvale, CA 94089
USA
tel 408-745-6755
fax 408-745-6746

Summary:
A compilation of new pieces featuring PDI's morph technique.

Produced by:
Pacific Data Images

Hardware:
Silicon Graphics Personal Iris

Software:
Pacific Data Images proprietary

25. Wack

Time 0:20

Contact:
Harold Buchman
Rhythm & Hues, Inc.
910 North Sycamore Ave.
Hollywood, CA 90038
USA
tel 213-851-6500
fax 213-851-5505

Produced by:
Harold Buchman

Hardware:
Silicon Graphics 4D/280

Software:
Rhythm & Hues

26. Primordial Dance

Time 1:50

Contact:
Karl Sims
245 First Street
Cambridge, MA 02142
USA
tel 617-234-1000
fax 617-234-4444

Summary:
Images and animations are generated by sequences which emerge from interactively "evolving" equations.

Produced by:
Karl Sims, Thinking Machines Corporation

Hardware:
Connection Machine System, CM-2

Software:
Data Parallel Image Evolution software written in Starlisp