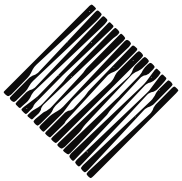
ACM SIGGRAPH VIDEO REVIEW



ISSUE 37

SIGGRAPH '88 Film & Video Show

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ACM SIGGRAPH Video Review

Issue 37

SIGGRAPH '88 Animation Screening Room Highlights

1. Cootie Gets Scared

Contact:
Mike McKenna
Computer Graphics & Animation Group
MIT Media Labs
E15-324
20 Ames St.
Cambridge, MA 02139
(617) 253-5995

Summary:
Cootie Gets Scared illustrates a collection of techniques in support of task-level animation. For example, biological motor control-- coupled oscillators to control the stepping motions, and a set of stepping reflexes -- is used to control the gait cycle. Inverse kinematics controls the motion of each cootie leg. Dynamic simulation generates the motion of the head and antenae, and the dangling spider, all simulated mass-spring systems. None of the motion in the piece, except for camera moves and the curling of the tongue, has been keyframed.

Hardware:
The sequence was generated using the HP 9000 series 350 and 825 workstations. Final rendering using a Gould Power-

mode 9080 host. The high-resolution video was downsampled in real time using a Color Graphics Converter from Folsom Research, Inc. and single-frame recorded on a Sony BVW-40 Betacam VTR.

2. Post Perfect Demo

Contact:

Dean Winkler
Post Perfect, Inc.
220 East 42nd Street
New York, NY 10017
(212) 972-3400

Hardware:
These images were designed on Silicon Graphics 3130 workstations.

Software:
Wavefront 3D modeling and choreography software. Additionally, certain objects were generated and interpolated using Post Perfect 3D software. Rendering was done using Wavefront's Image software on a Celerity 1260 and Silicon Graphics CS12.

3. Interaction of Cosmic Strings

Contact:

Stefan Fangmeier
NCSA,
Scientific Visualization Program
605 E. Springfield Ave.
152 Computing Applications Building
Champaign, IL 61820
(217) 244-20

Summary:
This tape is a scientific visualization of numerical simulations investigating the dynamics of cosmic strings. The introductory animation describes the physical qualities of cosmic strings as well as the parameters of the research. Following the introduction are simulations in which two strings making the desired crossing angle are written into a 64-cubed computational domain and boosted towards one another at two different speeds.

Hardware:
Wavefront Technologies and in-house software is used to produce work on such work stations as the Sun 3/160 and Silicon Graphics IRIS 3130 and to view images on Raster Tech framebuffers. Final rendering is performed on an Alliant F/X-80 and recorded on videotape (3/4") via an Abekas A62 digital video store.

4. Robochicken: Poultry in Motion

Contact:

Barry Armour
Camerawork
501 S. 15th St.
Philadelphia, PA 19146
(215) 546-2067

Summary:
Robochicken was the result of

an investigation in animating a bipedal creature.

Hardware:
The animation was created using an Apollo DN-3000 workstation.

Software:
Intelligent Light Software

5. The Sky

Contact:
Eihachiro Nakamae
Hiroshima University,
Electric Machinery Laboratory
Saijo-cho,
Higashi-hiroshima 724
Japan
(082) 422-771181

Summary:
This work represents sky color considering both scattering and absorption due to air molecules and aerosols in atmosphere and the lighting effect of skylight. Sky and cloud color variation is demonstrated especialy in the scene of daybreak and sunset.

Hardware:
The Sky was produced using a Sequent S81, IRIS 4D/60T, and Tosbac D.S. 600.

6. Anchoring Unit of Protamine with DNA

Contact:
John Blunden
Lawrence Livermore
National Laboratory
P.O. Box 808
Livermore, CA 94550
(415) 422-4989

Summary:
Protamine is a protein which condenses DNA into sperm heads. It contains multiple anchoring units, which are stretches of positively charged arginine that bind to and cancel the negative charges on the DNA molecules, allowing them to approach eachother more closely. This is a simulation of a small anchoring unit consisting of four arginines.

Hardware:
The dynamics was carried out on a Cray X-MP using the AMBER program, written at UCSF. The initial conformation was modeled using the MIDAS program at UCSF. A new area-coherence shadow algorithm was used for the color rendering.

7. KHD Commercial

Contact:
Siegfried Steiner
STEINER - FILM
Perlacher Str. 16
8020 Grunwald

West Germany
(089) 641-6010

Hardware:
This animation was created with an IRIS workstation, E&S PS 300, and two Gould PN 6040 computers on a Raster Technologie One/80 frame buffer. ABEL and in-house software were used. Film recording was accomplished using a Matrix film recorder and Oxberry camera.

8. Refraction Effects in Radiosity

Contact:
Francois Sillion
LIENS
45 Rue d'Ulm
75230 Paris France
33 (1) 43 26 59 96

Summary:
This piece extends Wallace, Cohen & Greenberg's radiosity/ray-tracing work to include arbitrary shapes, and introduces refraction in the radiosity solution.

Hardware:
The animation was produced with a Light Inter-reflection Calculation System, combination of radiosity and ray-tracing, using a Bull SPS-9/800 minicomputer.

9. Mars Rover Sample Return Mission

Contact:
Gunter R. Sabionski
NASA Johnson Space Center
FM7
Houston, TX 77058
(713) 483-8106

Summary:
NASA is studying the feasibility of an unmanned mission to Mars in the late 1990's. This video was produced to coordinate efforts between scientists at various NASA centers.

Hardware:
The animation was created on a Silicon Graphics 2500 Turbo. The frames were rendered on a Celerity Model 1260D

Software:
Wavefront Technologies

10. Hair

Contact:
Jerry Weil
Whitney/Demos Productions
300 Corporate Pointe
Suite 100
Culver City, CA 90230
(213) 649-6400

Summary:
Each hair style is described by a set of parameters -- curliness, waviness, direction of growth, etc. -- to create the effects shown. The hair is rendered by extruding a two-dimensional

brush through a three-dimensional path.

11. ReZ-N8 Demo Reel

Contact:

Paul S. Sidlo
ReZ-N8 Productions, Inc.
8961 Sunset Blvd.
Penthouse
West Hollywood, CA
90069
(213) 550-8885

Hardware:
Most the the reel's animations were computed on Prime workstations, using Wavefront software for all rendering and most motion work.

Software:
Wavefront Technologies

12. Metalmorphosis

Contact:

Wilson Burrows
Advanced Computing Center for the Arts & Design
1224 Kinnear Road
Columbus, OH 43212
(614) 292-3416

Summary:
Metalmorphosis depicts the return to space of a young seed-vehicle, part of a saga of a race of tower-like beings that are vegetable and electric in nature.

13. F16 Flight Dynamics

Contact:

Gordon V. Bancroft
NASA Ames Research Center
Fluid Dynamics Division
Moffett Field, CA 94035
(415) 694-4052

Summary:
This video illustrates how simulated particle traces can be used to visualize the dynamics of air flow fields over an F16 aircraft.

Hardware:
Flow fields were calculated on a Cray supercomputer from basic fluid dynamic equations. The computational grid for the space around the aircraft consists of 17 separate grid zones.

14. Animals (excerpts)

Contact:

Thierry Bravais
Mac Guff Ligne 4,
Passage de la main d'or
75011 Paris France
33 (1) 43 38 44 55

Summary:
These are some of the forty 35-second light-hearted Animal sequences produced for Canal Plus and Program 33, France.

Hardware:
Animals segments were created on PC based systems using UMAGIX 3-D software.

15. Technoquest Demo Reel

Contact:
David Hirokane
1-9-10 Koenji-Kita
Suginami-ku, Tokyo
Japan
81 (03) 389-8575

Hardware:
This demo reel and the Channel 26 ID (Animation #18) used VEX 785 hardware.

Software:
ZOMBI in-house software

16. Sonic Map Studies

Contact:
Brian Evans
University of Illinois, NCSA
CSODCL
1304 W. Springfield
Urbana, IL 61801
(217) 333-8931

Summary:
In Sonic Map Study the output from the process is mapped into 256 colors and 24 pitches that span 4 octaves. While the images move at 30 frames a second with 640 X 480 resolution, the music follows the progress of only four points distributed evenly across the image. The sampling rate for these 4 voices is 480 beats per minute.

Credits:
The music and graphics were created by Brian Evans, a composer working at the National Center for Supercomputing Applications.

Hardware:
Graphics were generated on Cray X-MP/48 while the music was realized on an Apple Macintosh driving a modest MIDI music synthesis set-up.

Software:
The software was written by the composer.

17. Visualization of Four-Dimensional Meteorological Data

Contact:
William L. Hibbard
University of Wisconsin
SSEC Room 631
1225 W. Dayton St.
Madison, WI 53706

Summary:
This animation shows the development of a thunderstorm.

Hardware:
IBM mainframes were used to run the software and render the animation. The animation was loaded into multiframe workstations using statistical compression. The slight vertical rocking is designed to aid depth perception.

Software:
The animation was generated

using the 4-D MIDAS software, created at the University of Wisconsin Space Science and Engineering Center.

18. Channel 26 ID

Contact:

David Hirokane
1-9-10 Koenji-Kita
Suginami-ku, Tokyo
Japan
81 (03) 389-8575

19. "Return to the Titanic " Sinking Scenario

Contact:

Clayton Whitney
MIX EFEX
800 N. Cole Ave.
Hollywood, CA 90038
(213) 460-4875

Summary:

MIX EFEX animated this 3-D reconstruction of the Titanic's sinkin on the Bosch FGS-4000 based on archival documents for the syndicated broadcast special "Return to the Titanic" which aired in October, 1987.

20. Helicoptor !

Contact:

John A. Briggs
Evans & Sutherland
PO Box 8700
580 Arapeen Dr.
Salt Lake City, UT 84108
(801) 582-5847

Hardware:

All imagery was generated in real time on an Evans & Sutherland CT6 visual image generator and recorded as NTSC video. The flight along the coastline demonstrates the use of photo-derived texture to increase screen complexity.

21. Chalk Talk

Contact:

Tamera Pulver
Lamb & Company
1010 S. 7th Street
Sixth Floor
Minneapolis, MN 55415
(612) 333-8666

Hardware:

Chalk Talk was animated using Wavefront software with in-house enhancements. Hardware was IRIS 3130 workstations and frame buffers and an Edge 500 rendering station.

22. Project Sci-Vi

Contact:

Stefan Fangmeier
NCSA,
Scientific Visualization Program

Lab, Inc.
2 27 8 Minami Ikebukuro
Toshima, Tokyo
Japan 171
(03)590-6221

Summary:
JCGL is a computer graphics production company which has developed the C.G. System, IMAGE MAKER, including a 36-bit frame memory.

Hardware:
Hardware used includes DEC VAX 11/780, Genisco & Ikegami framebuffers, IMI 500, E&S PS 330, Sony VH 2500, Dicomed 48 S,
Sun3 & NEC PC 9801, and IMAGE MAKERS Paint System.

Software:
Created with JCGL system software.

22. Sogitec Show Reel (Excerpt)

Contact:
Xavier Nicolas Sogitec
32 boulevard de la Republique
Boulogne-Billancourt
France 92100
(1) 46 08 13 13
415-243-8467

Summary:
This contains excerpts of Sogitec's work during the last nine months, including selections from commercials and corporate films.

Hardware:
Created with Perkin Elmer 3200 and MPS/Raster Tech/ESS.

Software:
Sogitec Software

23. Deja Vu

Contact:
Elyse Vaintrub
4D Art & Design
11-13 Sterling Place
Suite 5D
Brooklyn, NY 11217
(718) 636-5391

Summary:
Up to now, computer graphics has tended to be very hard edged macho and futuristic. The concept is to inject a new sensibility; something softer, more sensuous, lyrical: a piece in which mood and texture take precedence over technology.

Hardware:
This animation was created on a Gould Sel 6240.

Software:
SynthaVision

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Other Available Issues:

SIGGRAPH '89 Animation Screening Room Highlights Issue 54

1. *Viomechawars/Debuchi*
2. *Lorelei/Casey et. al.*
3. *Once a Pawn a Foggy Knight... /Ebert et al., OSU*
4. *Esmerelda/Kantor, SVA*
5. *Let It Rain/Wilson*
6. *Birdbrainstorm/Voci, NYIT*
7. *PDI "Selected Cuts"/ Gaeta, PDI*
8. *Honey, I Shrunk the Kids (Opening Titles)/Kroyer*
9. *Philomene/Fant\kome*
10. *Fish/Bock*
11. *Karkador/Callas*
12. *Revolve Evolve/Hirata*
13. *A View of a Room/Gerth*
14. *Gallia/Stenger*
15. *Rednose Rabbit/ Hulsbergen, Dig. Art Prod.*
16. *Coredump/Fujii, OSU*
17. *The Universe Within/NHK*
18. *Pygmalion/Nahas, Universite Paris*
19. *Faux Pas/Davies et al.*

SIGGRAPH '89 Animation Screening Room Highlights Issue 53

1. *Random House/Johnson, SVA*
2. *Trouble in the Basement/ Johnson, SVA*
3. *Galaxy Sweetheart/ Thalmann, Swiss Fed. I.T.*
4. *Columbus On the Edge/ Haxton, Wm Paterson Col.*
5. *Ziggraf/Banchero, Jr.*
6. *Vegetables/Lehn, Lamb & Company*
7. *Tempest/Litwinowicz, Williams, et. al., Apple*
8. *Soft Landing/RGB Computer Graphics Serv.*
9. *First Contact/Wolff, Apple*
10. *Crack Fish/Ray, Byte by Byte Corp.*
11. *Autodesk Animator/ Bennett, Autodesk*
12. *Kawasaki Safety Intelligent Plaza/Howe & Kasahara*
13. *Scenes at a Street Corner/ Nakamae, Hiroshima Univ.*
14. *Pool/Volny*
15. *A Journey Into Sound/ CMP GmbH & Co. KG*
16. *Multivisual's 1989 Demo Reel/Lowe & Mellenhorst*
17. *Demon Reel/Berenguer, ANIMATICA*
18. *In Time ... It Happens/ Banchero, Jr.*
19. *Lamb & Company Character Demo Reel/Lehn*
20. *Music for the Eyes/ Conahan & Amour*
21. *1989 PPS Selected Animations/Polk, P. P. S.*
22. *New Explorers Opening/ Cully, Post Effects*
23. *Metrolight Studios Show Reel/DiNoble, MetroLight*
24. *McEwan's L.A. "Walk In A Straight Line"/Forrest et al.*
25. *Pepsi Presents: Wired/ Forrest, et. al., Snapper*
26. *Digital Pictures Animation/ Woodfield, Digital Pictures*
27. *Stuff We Did/Seydoux, BSCA*
28. *The Sound of One Hand Clapping/Stroukoff*

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Other Available Issues:

SIGGRAPH '89 Computer Graphics Theater & Animation Screening Room Highlights Issue 52

1. *Complexly Simple/Kajima*
2. *Night Cafe/Cubicomp, Canada*
3. *Excerpts from "Leonardo's Deluge"/Sims, Optomystic*
4. *Voyager: Journey to the Outer Planets/Rueff, JPL*
5. *Don't Touch Me/Kleiser-Walczak Construction Co.*
6. *Parfums de Vie/ Sogitec*
7. *Tipsy Turvy/Norton, IBM*
8. *Eurhythmy/Amkraut and Girard, OSU ACCAD*
9. *Numerical Experiments on the Interaction of Disk Galaxies/Bancroft, NASA*
10. *Gas Turbine Flowfield Simulation/NASA Ames*
11. *Tempest in a Teapot/ Desmarais, Battelle*
12. *knickknack (An Excerpt)/ Guggenheim, Pixar*
13. *Displacement Animation of Intelligent Objects/ Elson, Symbolics*
14. *Dirty Power/OSU ACCAD*
15. *ALEA/Anderson, MIT*
16. *Plastic Landing/Dech, UIC*
17. *Leela/Shriram*
18. *PeeDee Meets the Dragon/Weil, Optomystic*

SIGGRAPH '89 Computer Graphics Theater Issue 51

1. *The Little Death/Elson, Symbolics*
2. *A Moonlit Spring Night at Ma-ma Temple/Motoyoshi*
3. *Inforum/Design/Effects*
4. *Her Majesty's Secret Serpent/Apple*
5. *Treadmill/Campbell*
6. *Locomotion/Goldberg,PDI*
7. *The Conquest of Form/ IBM UKSC*
8. *NBC 1988 Olympic Open/ Kanner, Filigree Films*
9. *Gibbon Event/Ridenour, UCLA Design Dept.*
10. *Visualization of Simulated Treatment of an Ocular Tumor/Lytle, CNSF*
11. *Continuum 1. Initiation/ Post Perfect*
12. *Mars - The Movie/JPL*
13. *In Search of New Axis/ Polygon Pictures*
14. *Megacycles/Mitchell, AT&T Bell Labs*
15. *Sio-Benbor Junior/ Fantome*
16. *Mathematics! /Blinn*
17. *Study of a Numerically Modeled Severe Storm/ NCSA*
18. *Margaux Cartoon/Electric Picture Works*
19. *L'Anniversaire/Anniver./ Centre d'Animatique, NFBC*
20. *Paris: 1789/Nicolas, Ex-Machina*
21. *A Public Service Announcement/WATARP*
22. *Breeze/Xaos*
23. *Send in the Clouds/ Gardner, Grumman*
24. *The Making of "Without Borders"/Design/Effects*
25. *The Virtual Lobby/UNC*

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