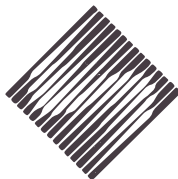# ACM SIGGRAPH VIDEO REVIEW

ISSUE 85

ACM SIGGRAPH '92
Computer Graphics Screening Room
part 3 of 3

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TECHNICAL REEL

1. Sam's Water

Time: 00:01:22

Produced by:
CAL

Summary:
Simulation of water

Contributor:
Sam Richards

Hardware:
Silicon Graphics

Contact:
Mara Bryan
CAL
8A Shelton Street
London WC2
United Kingdom
(44) 71-240-9741
(44) 71-240-2801 fax

2. Water Colors

Time: 00:01:43

Produced by:
Hiroshima University

Summary:
In order to display photo-realistic landscape images, many of the latest techniques based on optical phenomena are employed; atmospheric scattering model, solar penumbra, and radiative transfer in water.

Contributors:
Tomoyuki Nishita, Katsumi Tadamura, Yoshinori Masumoto, Masashi Baba, Masayuki Kawano, Takeshi Yamanaka, Gan Yuan, Takushi Kagawa, Yoshinori Dobashi, Akira Ishida, Hirohiko Kanetani, Takao Shirai, Shegeki Mori, Muneki Shimada. Producer: Eihachiro Nakamae

Hardware:
NEC EWS4800, SGI IRIS 4D

Software:
In-house

Contact:
Eihachiro Nakamae
Hiroshima University
Faculty of Engineering
Higashi-hiroshima 724
Japan
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(81) 82-422-7195 fax
naka@eml.hiroshima-u.ac.jp

behavior simulation of hair, anisotropic reflection model for hair, facial action control, motion generation with emotion, and deformation expression for muscle are used to render natural human images.

Contributors:
Munetoshi Unuma, Kiyoshi Arai, Yoshiaki Usami, Ken Anjyo, Tsuneya Kurihara, Shinkichi Araki, Hiroaki Takatsuki; NAMCO crew: Shinobu Suzuki, Akemi Inoue, Masaaki Tsuchida, Yasuo Ohba, Akiko Saitou, Ryuji Ohdate, Naohiro Saitou, Suguru Suzuki, Kenji Watanabe; Producer: Ryozo Takeuchi

Hardware:
Silicon Graphics IRIS 4D

Software:
In-house

Contact:
Yoshiaki Usami
Hitachi Research Lab.
Hitachi, Ltd.
4026 Kuji-cho, Hitachi-shi
Ibaraki-ken 319-12
Japan
(81) 29-452-5111
(81) 29-452-7601 fax
usami@hrigw.hrl.hitachi.co.jp

3. Windy Moment

Time: 00:00:30

Produced by:
Hitachi

Summary:
Hairstyle modeling, dynamical

4. Nano-Vision

Time: 00:02:58

Produced by:
NHK

Summary:
The innovative "Nano-Vision"

was developed to synthesize live shots and computer animations for the special, "Nano-Vision", to effectively present the miracles and wide-ranging utility of this newly discovered world. Computer animation successfully synchronized the studio camera's 3D movement in real-time, giving birth to the "virtual" studio with electronic setting.

Contributors:
Naoji Ono, Mahito Onimaru, Tetsuo Akutsu, Sigekazu Sakai, Masaki Hayashi, Satoru Nagamine, Takahide Akiyama, Yosikazu Iwaoka, Akira Sakata, Hiroko Haruta

Hardware:
HP9000/720 TURBO VRXT4, MC68030 board CPU, Ultimate (for video image synthesis)

Software:
In-house

Contact:
Mahito Onimaru
NHK Creative
2-2-1 Jinnan Shibuya-ku
Tokyo 150-01
Japan
(81) 35-478-2567
(81) 33-466-6570 fax

5. Sculpt

Time: 00:03:04

Produced by:
MIT Media Lab

Summary:
A demo of an interactive volumetric modeling technique that is based on the notion of sculpting a solid material. A paper on this work appeared in SIGGRAPH '91.

Contributors:
John Hughes, Dan Robbins, Joe Chung, Michael B. Johnson, Steven M. Drucker; Producer: Tinsley Galyean

Sponsor:
Brown University, MIT Media Laboratory, IBM, NCR, and Sun Microsystems

Hardware:
HP835, Ascension Bird

Contact:
Tinsley A. Galyean
MIT Media Lab
20 Ames Street, E15-023
Cambridge, MA 02139
(01) 617-253-0660
(01) 617-258-6264 fax
tag@media-lab.media.mit.edu

6. Kodak "Let the Memories Begin"

Time: 00:01:00

Produced by:
R/Greenberg Associates, Inc.

Summary:
Stadium spectators are entertained by photographs in a choreographed "card-file" display of olympic proportions.

Contributors:
Director: John Clive; Producers: Brian Williams, Diane Pearlman; Computer Graphics: Joe Francis, Cassidy Curtis, Eileen

O'Neill; Software: Joe Francis, Cassidy Curtis; Ad Agency: Young & Rubicam, NY

Contact:
Lisa Smith
R/Greenberg Associates
350 West 39th Street
New York, NY 10018
(01) 212-239-6767
(01) 212-947-3769 fax
joe@rga.com

Sound/ Music: Michael Wolf, Clack Studios, NYC

Contact:
David R. Haumann
IBM T.J. Watson Research Center
POB 704
Yorktown Heights, NY 10598
(01) 914-784-7013
(01) 914-784-6273 fax
haumann@watson.ibm.com

7. Humming Along

Time: 00:02:00

Produced by:
IBM T.J. Watson Research Center

Summary:
Physically accurate models were combined with control systems to simulate the hovering flight of a hummingbird and the motion of human-sized clowns on swings, seesaws, and unicycles.

Contributors:
Created by David Haumann, Jessica Hodgins, and Paula Sweeney; Charater Design and Story Direction: Chris Wedge; Modeling: Marcos Martins;

8. Fun With Octrees: Graph Topologies on the Recurrent Cube

Time: 00:01:20

Produced by:
John C. Hart

Summary:
The attractors of recurrent iterated function systems are explored. The same eight transformations, which take the cube to its octants, are used. The control graphs are altered to produce a variety of fractal shapes.

Contributors:
Music: Sumit Das

Hardware:
AT&T Pixel Machines

Software:
Proprietary

Contact:
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University of Illinois at
Chicago
Chicago, IL 60680-4348
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(01) 312-413-7585 fax
hart@eecs.uic.edu

9. Graphic Violence

Time: 00:02:05

Produced by:
The George Washington Univ.

Summary:
Introducing Herman as the ento-
mologically frustrated computer
animator, who vents his anger
with a spray can. Can a charac-
ter with no lips prevail? Fea-
tures sounds effects generated
automatically from the motion.

Contributors:
Story/ Direction/ Image Render-
ing Software: Larry Gritz; Bee
Modeling/ Behavioral Motion:
Daria Bergen; Modeling/ Key-
framing: Rudy Darken; Sound
Rendering: Tapio Takala,
James K. Hahn: Original Music:
David Michael

Hardware:
HP 9000/720. SGI 440/480 VGX

Software:
custom motion rendering and
sound software

Contact:
Larry Gritz
The George Washington
University
Departmen of EE&CS
801 22nd Street, NW
Room T624G
Washington, DC 20052
(01) 202-994-0460
(01) 202-994-0227 fax
gritz@seas.gwu.edu

10. Four-Sight

Time: 00:04:25

Produced by:
Andrew J. Hanson & Pheng A.
Heng

Summary:
Objects embedded in four-
dimensional space can be readi-
ly studied using computer
graphics simulations even
though we cannot physically
perceive objects in 4D. This vid-
eo provides an elementary intro-
duction to the production and in-
terpretation of 4D images, along
with a remarkable series of im-
ages of mathematical objects
never before represented in this
way.

Contributors:
Produced and Directed by An-
drew J. Hanson and Pheng A.
Heng; Story/ Visualization con-
cepts: Andrew J. Hanson; Math-
ematical Design/ Animation:
Pheng A. Heng; Artistic Design/
Animation: Brian Kaplan: Anima-
tion Donald F McMullen Rob-
ert Cross Technical Production
Editing Eric Ost Narration Vir

ginia Berry; Audio editing: David
Rust

Sponsor:
Indiana University CICA & Computer Science Department

Hardware:
Kubota Pacific Computer (Titan), SGI IRIS

Software:
Wavefront Advanced Visualizer,
AVS and in-house

Contact:
Andrew J. Hanson
Indiana University
Computer Science
Department
Lindley Hall 215
Bloomington, IN 47405
(01) 812-855-5855
(01) 812-855-4829 fax

11. Iwate '92

Time: 00:00:45

Produced by:
Iwate University

Summary:
The botanical tree is generated
by using a new growth model
having abilities of heliotropism,
dormancy break, and apical
dominance which was developed at Iwate University. The
flames are simulated by improved behavioral models of a
2D vortex and a partical tracer
developed at Iwate University
and Morioka Junior College.

Contributors:
Kazunobu Muraoka, Hiromichi
Takahashi; Producer: Norishige
Chiba

Hardware:
Sony Workstation NWS-3260,
SIG framebuffer S1000

Software:
In-house modelers for trees and
flames

Contact:
Norishige Chiba
Iwate University
Morioka 020
Japan
(81) 19-623-5171
(81) 19-624-4078 fax

12. Flux

Time: 00:00:57

Produced by:
Jon McCormack

Summary:
This is a "work in progress" animation created with a procedural modeling and animation language developed by the
producer. The language combines L-systems and cellular automata.

Contributors:
This project was produced with
the assistance of the Australian
Film Commission and Wavefront
Technologies under their independent artist program.

Sponsor:
Australian Film Commission

Hardware:
Silicon Graphics 4D/209

Software:
Custom, Wavefront Advanced Visualizer

Contact:
Jon McCormack
Unit 4/50 Grove Road
Hawthorn, VIC 3122
Australia
(61) 3-862-2056
(61) 3-565-5146 fax
jonmc@bruce.cs.monash.edu.au

13. Party Hardy

Time: 00:00:30

Produced by:
Homer & Associates

Summary:
The lottery tickets from previous Pennsylvania Lottery games gather for a special surprise party for the new 20th anniversary game. All the motion of the facial animation and mouth and eye blinks were sampled in real time. Final choreography and rendering was done in Softimage.

Contributors:
Producer: Peter Conn; Director: Michael A. Kory; Technical Director: John Adamczyk; Motion Capture: Superflo/ Francesco Chiarini, Umberto Lazzari; Executive Producer: D. Rufus Friedman for Harold Friedman Consortium

Sponsor:
FCB/LGK

Hardware:
SGI 4D workstations, PC/486 with Vista card and BTS Elite motion tracker

Software:
Softimage, Wavefront, Digital Arts, and proprietary software

Contact:
Peter Conn
Homer & Associates
1420 N. Beachwood Drive
Hollywood, CA 90028
(01) 213-462-4710
(01) 213-472-2109 fax

14. Bugsy for Prez

Time: 00:02:05

Produced by:
Realta

Summary:
Human motion animating flexible 3D mouse. Piece demonstrates conversion of actual human motion and speech into motion paths and dynamics for 3D model.

Contributors:
Jeff Drzycimski, Dave Keller, Carol Keller, Lee Gramling, Tom McLaughlin, Nels Madsen, Ela Dixon-Haizlip, Patrick Scholes, Viewpoint

Hardware:
Silicon Graphics Poser Series

Software:
Wavefront

Contact:
Kimble L. Jenkins
Realta
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Memphis, TN 38104
(01) 901-725-0855
(01) 901-725-7011 fax

ARCHITECTURE REEL

15. Quatre Ans Cafe
Time: 00:01:25

Produced by:
Genevieve Yee

Summary:
A photo-realistic simulation of a walk-through of a cafe designed by the producer. The interior space and furniture are completely modeled and rendered on the computer. Paintings and exterior backgrounds are scanned images. The cafe is theoretically located on the penthouse level of a high-rise tower in Westwood, California.

Hardware:
SGI Iris 4D/210VGX, 220 VGX, 35

Software:
Wavefront

Contact:
Genevieve Yee
U.C.L.A./Graduate School of Architecture & Urban Planning
Perloff Hall
405 Hilgard Avenue
Los Angeles, CA 90024
(01) 213-932-0400
(01) 213-932-8440 fax

16. Pavillon de la Once
Time: 00:01:20

Produced by:
EDE Infografics

Summary:
Visualization of the "Foundation Once" building for Séville's universal exhibition in 1992.

Contributors:
Santiago Parramon

Contact:
Santiago Parramon
EDE Infografics S.A.
155 Avda Barcelona
08230 Terrassa- Barcelona
Spain
(34) 3-731-0241
(34) 3-785-1672 fax

17. "El Idioma Español" Pabellón de España Expo '92
Time: 00:05:52

Produced by:
COM4

Summary:
Six weeks of intense 3D production and digital postproduction for the Spanish pavilion at Expo

'92, a world showcase for the Spanish language.

Contributors:
Computer Arts Developments, Daiquiri Digital Pictures, Lapiz Azul, Jose Manuel Pagan

Hardware:
SGI 4D and Indigo, Abekas A60 Digital Disk

Software:
Pixar RenderMan, TDI Explore, Alias, Wavefront, Custom software

Contact:
Manuela Gutierrez
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Gran Via, 88 (Edificio España)
Madrid 28013
Spain
(34) 1-542-6190/ 542-9687
(34) 1-247-0638 fax

EDUCATION REEL

18. Highlights from Knotty (1)

Time: 00:02:00

Produced by:
Hewlett-Packard

Summary:
Knotty is a video about B-spline technology. It is a sequence of animation completely in computer graphics that illustrates the fundamental properties and kernel algorithms about B-splines.

Contributors:
Jonathan Yen

Hardware:
HP Graphics Workstation

Software:
HP Graphics Library: starbase

Contact:
Jonathan Yen
Hewlett-Packard
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Palo Alto, CA 94304
(01) 415-857-4769
(01) 415-857-4691 fax
jyen@hpl.hp.com

19. Engineering Animation, Inc. Demonstration Tape

Time: 00:03:00

Produced by:
Engineering Animation, Inc.

Summary:
Animations of mechanical systems and other physical phenomena used for engineering analysis and litigation support.

Contributors:
Terran Boylan, Martin Vanderploeg, Jeff Trom, Jay Shannan, Jim Lynch, Jim Troy, Todd Teske, Donald Garwood, Brett Weichers, Craig Muncaster, Jodi Zimmerline, Darren Knapp, Armand Assadi

Hardware:
SGI

Software:
ERNIE and other EAI animation

Contact:
Martin Vanderploeg
Engineering Animation, Inc.
2625 North Loop Drive
Suite 300
Ames, IA 50010
(01) 515-296-9908
(01) 515-296-7025 fax

Department
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Austin, TX 78759
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(01) 409-847-9284 fax
auvasbu@auvsun1.tamu.edu

20. Regular Convex Polytopes

Time: 00:05:15

Produced by:
Texas A&M University

Summary:
Using sophisticated lighting and transparency techniques, "Regular Convex Polytopes" displays higher-dimensional objects in a novel manner which allows the viewer to appreciate their internal beauty and symmetry.

Contributors:
Tom Asbury, Glen Williams

Sponsor:
Texas A&M University Computer Science/IBM ACIS Division

Hardware:
IBM RISC/6000 530

Software:
GL Library

Contact:
Thomas M. Asbury
Texas A&M University
Computer Science

21. Spending = Q x P

Time: 00:03:51

Produced by:
Federal Reserve Bank of San Francisco

Summary:
Educational computer generated video that explains how increases in spending lead to increases in production when the economy is producing below capacity.

Contributors:
Writer: Lyndi Beale; Music: Michael Porter; Editor: Thom Coberg; Producer: Mark Hendricks

Sponsor:
Federal Reserve Bank of San Francisco

Hardware:
SGI 4D/25, Videpak, Betacam

Software:
Vertigo

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