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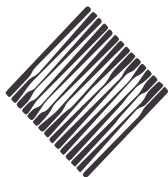
SIGGRAPH 97
V I S U A L I Z A T I O N   P R O G R A M
T A B L E   O F   C O N T E N T S

1 The TAJ MAHAL

PRODUCER:
VR Real Technologies (P) Ltd.

SUMMARY:
The TAJ MAHAL in all its glory.

CONTRIBUTORS:
Anuj Rawla, Sanjit Daniels,
Prem Kumar, Praveen, Madhu

CONTACT:
Anuj Rawla
VR Real Technologies (P) Ltd.
777 X, 13th Main, HAL II
Stage,
IndiraNagar, Bangalore
India
91.80.5262967
rawla@giasbg01.vsnl.net.in

2 Usonia: Frank LLoyd Wright's Vision for America

PRODUCER:
Columbia University
Graduate School of Architecture
Digital Design Lab

SUMMARY:
The term "Usonia" was often
invoked by Frank Lloyd Wright
to describe his vision for the
American landscape. For the
first time, through the utilization
of computer animation,
Wrightian spaces are now
presented in an engaging 3D
format with animated elements.

CONTRIBUTORS:
Urs Britschgi, Mike Hsu, Ashley
Schafer, Max Strang

CONTACT:
Max Strang
Columbia University -
Graduate School of
Architecture
Digital Design Lab
400 Avery Hall
New York, NY 10027-6699
USA
1.212.854.1842
max@strang.net

3 Congress Center Messe Frankfurt Visualization

PRODUCER:
ZGDV Computer Graphics Center

SUMMARY:
This photorealistic architectural visualization was used in the creation of the Congress Center.

CONTRIBUTORS:
Uli Spierling, Patricia Lobo Netto

CONTACT:
Uli Spierling
ZGDV Computer Graphics Center
Wilhelminen Strasse 7
D. 64283 Darmstadt
Germany
49.6151.155.182
49.6151.155.450 fax
ulisp@igd.fhg.de

4 Automated Highways/Excerpts

PRODUCER:
Kleiser-Walczak Construction Company
GM-Buick
The Palladian Group

SUMMARY:
This work introduces the concept of automated highways: a future system whereby cars will function without the driver having to steer, brake, or accelerate.

CONTRIBUTORS:
Presenter: Buick Motor Division/ General Motors Corporation, The Palladian Group
Designer, Writer, Head Animator: Beau Janzen
Producer: Erika Walczak
Animators: Phearuth Tuy, Greg Juby
Production Coordinator: Santo Ragno
Digital Assistant: Robin Cookis
Production Assistant: Slavica Pandzic
Sound Design, Music: Reel Sound Productions, Chuck Burgess
Narration: Chuck Burgess, Tina Janzen
Post Production Facility: Mist Media, Inc.

CONTACT:
Erika Walczak
Kleiser-Walczak Construction Co.
6150 Mulholland Hwy.
Hollywood, CA 90068
USA
1.213.467.3563
1.213.467.3583 fax

5 Interactive Learning and Teaching Environment

PRODUCER:
Stefan Lehmann
Thomas Overberg

SUMMARY:
This high-end interactive animation focuses on an emergency situation. Before the actual repair of pipeline disrupted by an earthquake can begin, a fast identification of knowledgeable resources and the deployment of sophisticated simulation processes must take place.

CONTRIBUTORS:
Project Coordinator: Dr. Mihai Nadin
Audio/Visual Media Center: Wilfried Wilken, Uli Christmann
Hardline Music Wuppertal: Thomas and Chris
Technical Assistance: Thomas Goecke, Stefan Maehler

CONTACT:
Stefan Lehmann
Thomas Overberg
University of Wuppertal
 Computational Design
Hofaue 35-39
42103 Wuppertal
Germany
49.202.244.2986
49.202.244.2987 fax
co-de@co-de.de

6 Titanic, Anatomy of a Disaster

PRODUCER:
Home Run Pictures

SUMMARY:
In 1985, the Titanic wreck was discovered as two separate pieces almost a half mile apart. In 1996, a scientific research team dove on the site looking for evidence to answer the question, "What really happened?" This animation created for The Discovery Channel, is a dramatic depiction of that fateful night.

CONTRIBUTORS:
Stardust Visual and The Discovery Channel
Animation Director: Tom Casey
Animators: Dawn Lohmeyer, Patricia Whittington, Wendy Jobe
Editing: Thad Christian
Audio: Sue Hartford, Jeff Pitman
Stardust Visual: Greg Andorfer, David Elisco, Charlene Haislip, David Cohen, Gary Hines, Brandon Plonka
The Discovery Channel: Maureen Lemire, Steve Burns, Bob Wise, Linda Guisset
Special Thanks: D'elia Wittkofski Productions, Kaleidoscope Animations, IFREMER, Silicon Graphics, Alias/Wavefront, Sense 8 Software

CONTACT:
Tom Casey
Home Run Pictures
One Market Street
Pittsburgh, PA 15222
USA
1.412.391.8200
1.412.391.0185 fax
tom@hrpictures.com

7 BodyVenture

PRODUCER:
Engineering Animation, Inc.

SUMMARY:
This animation shows the inner workings of the human digestive system, the formation of plaque on artery walls, and the effects of arthritis on bone and cartilage.

CONTACT:
Maribeth Waldman
Engineering Animation, Inc.
2321 North Loop Drive
Ames, IA 50010
USA
1.515.296.9908
1.515.296.9944 fax
maribeth@eai.com

8 Advanced Problem Solving

CONTACT:
Kevin Souls
University of Southern California
181 South Sycamore Street #302
Los Angeles, CA 90036
USA
1.213.468.2123
souls@scf.usc.edu

9 Enhanced Processor Lifetime through Deuterium Processing

PRODUCER:
Barbara Mason Fossum
Ben Grosser

SUMMARY:
This animation illustrates the recent discovery of enhanced transistor lifetime through deuterium passivation processing.

CONTRIBUTORS:
Steve Weintz, Derek Storr, Amy Ryan, Joe Lohmar

CONTACT:
Barbara Mason Fossum
Beckman Institute
 Visualization Facility
405 North Matthews
Urbana, IL 61801
USA
1.217.244.4464
1.217.244.8371 fax
b-fossum@uiuc.edu

10 the NICE project

PRODUCER:
the NICE project

SUMMARY:
"the NICE project" is a virtual reality learning environment in which children can explore and construct virtual ecosystems, collaborate with other remotely located participants, and create stories from their shared experiences.

CONTRIBUTORS:
Craig Barnes, Jim Costigan, Andrew Johnson, Jason Leigh, Thomas Moher, Maria Roussos, Christina Vasilakis

CONTACT:
Andrew E. Johnson
Electronic Visualization
  Laboratory
University of Illinois at Chicago
M/C 154
851 South Morgan Street,
  Room 1120 SEO
Chicago, IL 60607-7053
USA
1.312.996.3002
1.312.413.7585 fax
nice@ice.eecs.uic.edu

11 FACADE: Modeling and Rendering Architecture from Photographs

PRODUCER:
Paul Debevec

SUMMARY:
This video describes and demonstrates UC Berkeley's FACADE photogrammetric modeling system. It features a photorealistic reconstruction of a large portion of the Berkeley campus, centering on its bell tower. The video also uses FACADE to match a virtual flight path to recovered camera motion.

CONTRIBUTORS:
Modeling: George Borshukov, Paul Debevec, Jason Luros, Vivian Jiang
Rendering Algorithms: Yizhou Yu, George Borshukov, Paul Debevec
Match Moves: Jason Luros
Flightpath Algorithms: Paul Debevec, Sami Khoury
Flightpath Design: Chris Wright, Paul Debevec
Camera Work: Chris Wright
Kite Aerial Photography: Charles Benton, Paul Debevec
Miniature: Dorrice Pyle, Russell Bayba
Special Thanks: Charlie and Thomas Benton, Peter Bosselman, Linda Branagan, Jeff Davis, Brett Evans, Tim Hawkins, Carl Korobkin, Lindsay Krisel, Michael Naimark, Eric Paulos, Ellen Perry, Jitendra Malik, Susan Marquez, C.J. Taylor, Al Vera, Charles Ying

CONTACT:
Paul E. Debevec
University of California at
Berkeley
Computer Science Division
545 Soda Hall, #1776
Berkeley, CA 94720-1776
USA
1.510.642.9940
1.510.642.5775 fax
debevec@cs.berkeley.edu

12 Inside the Cell

PRODUCER:
Digital Studio SA

SUMMARY:
A virtual trip entirely based on
computer-generated 3D images,
this video shows the beauty and
complexity of life inside the
human cell, the basic living unit
of the body. The processes of
cell division (mitosis) and
transmission of genetic
information is explored.

CONTRIBUTORS:
Director: Andreas Koch
CG Supervisor: Laurent
Larsonneur
Original Story and Scientific
Advisor: Christian Sardet -
Centre National de la
Recherche Scientifique
CG Artists: David Ouanono,
Jèrome Boulbes, Laurent-Luc
Burtin, Franck Chedozeau,
Roberto Daniele, David Gould,
Laurent Larapidie
CG Software Developers:
Francis Roux-Serret
Production Assistants: Valerie
Lafon, Karine Roulland
Technical Assistant: Jean-
Pascal Plettener
Graphic Assistant: David Bonet-
Maury
Text: Dana Sardet, Christian
Sardet
Narrator: Dana Westberg
Music: Philippe Valembois
Special Thanks: Jeff Halnon -
Stereographics, Corp.

CONTACT:
Laurent Larsonneur
Digital Studio SA
12, rue Vivienne
75002 Paris
France
33.1.42.60.42.60
33.1.42.60.37.37 fax
llarsonn@digitalstudio.com

13 Filter-Regulator-Lubricator

PRODUCER:
Axel Thallemer

SUMMARY:
The task of the visualized
pneumatic service unit is to
filter, regulate, and lubricate
compressed air for pneumatic
installations. Filters free the air of
dirt particles and water droplets.
Regulators maintain the air
supply at the desired pressure,
and lubricators enrich the filtered
air with a precise quantity of oil to
protect the pneumatic actuators
within the installation from
mechanical wear.

CONTRIBUTORS:
Martin Danzer, Roman Riedmueller, Thomas Schneider

CONTACT:
 Martin Danzer
 Festo KG
 Corporate Design
 Heugasse 1
 D-73728 Esslingen
 Germany
 49.711.347.3850
 49.711.347.3899 fax
 dnz@festo.de

14 The Hologlobe

PRODUCER:
Smithsonian Hologlobe

SUMMARY:
"The Hologlobe" displays Earth science data in a unique educational and entertaining display. Unveiled by Vice President Al Gore last August at the 150th birthday celebration of the Smithsonian National Museum of Natural History, "The Hologlobe" features moving images from atmospheric, oceanic, biologic, and geologic data that have been collected from satellite observations. The series of animations include a perspective of Earth as seen from the Galileo spacecraft, and observations of water vapor, cloud cover, vegetation, sea surface temperature, El Nino, plate boundaries, earthquakes, and volcanoes. "The Hologlobe" project supports NASA's mission to bring science to the general public.

CONTRIBUTORS:
Institutional Contributors: The Smithsonian Institution, National Science Foundation (NSF), Defense Advanced Research Projects Agency (DARPA), Global Change Research Program (GCRP), National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA)
Private Contributors: Dynamic Media Associates (DMA), New York Film and Animation Co., Silicon Graphics Inc. (SGI), Hughes STX Corp.

CONTACT:
 Barbara Summey
 NASA Goddard Space Flight
  Center
 Scientific Visualization Studio
 NASA GSFC Code 935
 Building 28, Room S121
 Greenbelt, MD 20771
 USA
 1.301.286.5797
 1.301.286.1634 fax
 bsummey@okeeffe.gsfc.nasa.
  gov

15 Interactive Virtual Environment Walkthrough

PRODUCER:
Nanyang Polytechnic

SUMMARY:
A real-time interactive virtual walkthrough of Nanyang Polytechnic's new campus, this virtual reality application starts from the blue prints and captures the entire system so that users can interactively walk through the campus.

CONTRIBUTORS:
Kian Bee Ng and his student from Nanyang Polytechnic, Singapore

CONTACT:
Kian Bee Ng
Nanyang Polytechnic
20 Yishun Avenue 9
Singapore 768892
Singapore
65.750.3661
65.755.5571 fax
nkb@pacific.net.sg

16 NPSNET-IV: Inserting the Human into the Networked Synthetic Environment

PRODUCER:
Michael Zyda

SUMMARY:
The piece shows fully articulated humans in the NPSNET-IV networked synthetic environment. NPSNET-IV is running on a Silicon Graphics, Inc. Onyx RE-2 in real-time. The humans in NPSNET-IV are animated using the Boston Dynamics, Inc. DI-GUY software. The omni-directional treadmill was designed and constructed by Virtual Space Devices.

CONTRIBUTORS:
Video Editing & Postproduction: Michael Zyda
Omni Directional Treadmill (ODT) Cameraman: Fred Zyda
NPSNET ODT Software: Paul Barham, Randy Barker
ODT, Virtual Space Devices: David Carmein
Boston Dynamics, Inc. DI-Guy Software: Marc Raibert
3D Modeling: John Locke

CONTACT:
Michael Zyda
Naval Postgraduate School
Dept. of Computer Science
Code CS/Zk
Spanagel Hall 252
Monterey, CA 93943-5118
USA
1.408.656.2305
1.408.656.4083 fax
zyda@siggraph.org

17 Heartbeat for "Where We Work"

PRODUCER:
Home Run Pictures

SUMMARY:
Featuring an accurate 3D model of the human heart, this video invites us to travel through the heart's pulsating ventricles and valves.

CONTRIBUTORS:
RedHouse Communications
Animators: Dawn Lohmeyer, Wendy Jobe, Tom Casey
RedHouse Communications: Pat Klug

CONTACT:
Tom Casey
Home Run Pictures
One Market Street
Pittsburgh, PA 15222
USA
1.412.391.8200
1.412.391.0185 fax
tom@hrpictures.com

18 Smithsonian Cinder Cone

PRODUCER:
Engineering Animation, Inc.

SUMMARY:
This animation depicts the formation of a Cinder Cone volcano. It will be on permanent exhibit in the Gems and Mineralogy Hall of the National Museum of Natural History at the Smithsonian Institute in Washington DC when the hall opens later this year.

CONTACT:
Maribeth Waldman
Engineering Animation, Inc.
2321 North Loop Drive
Ames, IA 50010
USA
1.515.296.9908
1.515.296.9944 fax
maribeth@eai.com

19 Good Vibrations

PRODUCER:
Harald Evers

SUMMARY:
Voxels of two tomographic volumes were randomly placed on four walls of a box. The movement to their original location was influenced by two vibrations, which were overlaid using a weighting function. At every sampling time a new volume was created that considered the current voxel positions and subsequently was rendered.

CONTRIBUTORS:
Gerald Glombitza, Oliver Werner

CONTACT:
Harald Evers
German Cancer Research Center
Div. Medical and Biological Informatics/0805
Im Neuenheimer Feld 280
69120 Heidelberg
Germany
49.6221.422.325
49.6221.422.345 fax
H.Evers@dkfz-heidelberg.de

20 Protozoa's VRML Skits

PRODUCER:
Steve Rein

SUMMARY:
Designed for the Web, these entertaining skits features Protozoa's simple, yet expressive characters. Brought to life with the Alive! performance animation system, they represent a glimpse of things to come in the emerging world of VRML.

CONTRIBUTORS:
Emre Yilmaz, Dan Hanna, Mike Morasky, Steve Rein, Bay Raitt, Tracey Roberts, Tennessee Reid Norton, Terry Franguiadakis, Michael Stein, David Spivack, Eric Gregory, Marc Scaparro, Jan Mallis, Eric Goldberg, Stephen Kearin, Gerri Lawlor, Erik Bergmann, Brad deGraf.

CONTACT:
Bryan Kelly
Protozoa, Inc.
2727 Mariposa Street
Studio 100
San Francisco, CA 94110
USA
1.415.522.6500
1.415.522.6522 fax
bryan@protozoa.com