IRIS

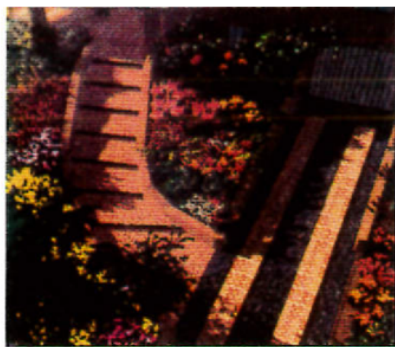## *u n i v e r s e*

**WINNERS OF THE SECOND INTERNATIONAL
VISUAL COMPUTING AWARDS**

THE LICENSING OF THE IRIS GRAPHICS LIBRARY

THE ARCHITECTS OF XAOS

BEST SHOTS

Winning Images from the Second International Visual Computing Awards Contest


1st Place Winner: Scientific Visualization
Private Garden
This modelization is based on botanic concepts which give a dynamic description of the evolution of the buds. All of the plants are computed by a stochastic growth generator program which permits growth simulation at any age, while affording different levels of simplification for more than one hundred modeled plants. Employing the 24-bit plane and z-buffer with the AMAP program enables the complete rendering of voluminous data to produce terrain, texture, fog processing and Gouraud shading. *Image created by Alexandre Polo of CIRAD/ GERDAT — Laboratoire de Modelisation, using a 4D/70GT and AMAP software.*

### 2nd Place Winner: Animation
Lifesavers: The Good Times Roll
A Lifesaver roll proves it's musicianship as it careens across a piano, guitar and drums. The piano keyboard is driven by the output of Macintosh™ "Performer" software. Composer Richard Bell's right hand movements were reproduced note-for-note on the 3D characterized piano. Any final changes in the musical score can automatically be reflected in the animation. This, in effect, is a 3D player-piano. *Image created by Chris Wallace of Topix Computer Graphics and Animation, Inc., using a Personal IRIS 4D/25 and Wavefront software.*
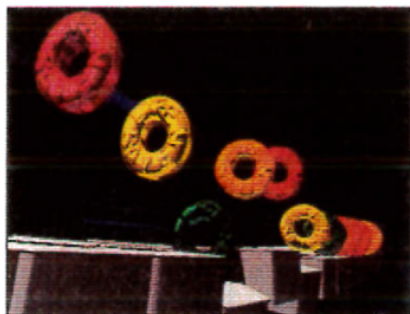
3rd Place Winner: Architecture, Engineering, Construction
*Perspective View of Proposed Offshore Hotel in Singapore*
Input for this entry was a 3D model. Colors, transparencies, and reflections were chosen to indicate materials and emphasize high-tech structure; only the sky was imaged by manipulating the scanned photo. The reflection of the building into the sea was created by images generated with the 3D model. *Image created by Catherine Rey of GMW Partnership, using a 4D/20G-S38 and SONATA software.*
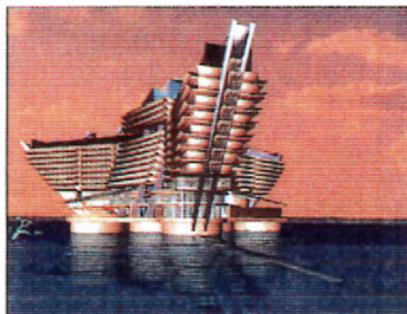
### Graphic Arts & Publishing
The Lasting Impression
This image shows the effect of a successful ad campaign on the consumer. In addition to TDI's projected solid texturing and RGB 'stain' function, three paint packages were used to create 2D color and transparency maps. These were painted at 4K resolution and rendered with the 3D scene, instead of composited. This image demonstrates our ability to mix low-tech cartoons with high-tech backgrounds. *Image created by Brian Moylan of Pacific Post Productions, using a Personal IRIS 4D/20 and TDI software.*
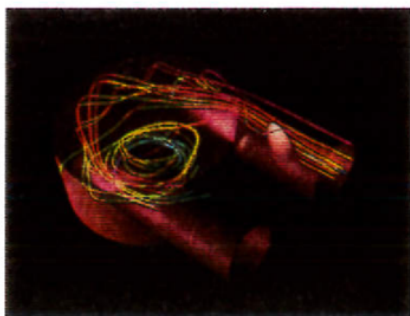
Computational Fluid Dynamics
Penn State Artificial Heart Particles
This image depicts particle traces, color-indexed by height, which represent the swirling motion of the flow and the formation of a vortex core inside the main chamber of the heart. Transparent surfaces allow the scientists to visualize this complex internal flow. *Image created by Chris Gong of Sterling Software at NASA Ames Research Center (co-submitter: Cetin Kiris), using a 4D/70GT and Plot3D, SURF & GAS software. Computations performed on a Cray YMP supercomputer.*
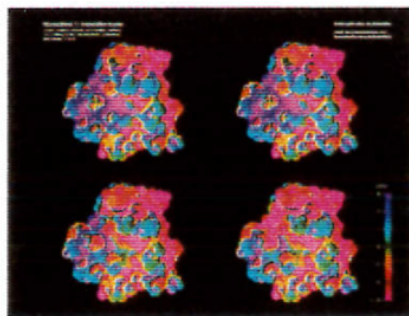
Computer-Aided Molecular Design
Electrostatic Enzyme-Substrate Interactions
Visualizing electrostatic interactions at the solvent accessible surface level is very instrumental in understanding many biological phenomena — particularly enzyme-substrate interactions. The image suggests that the weaker activity of RNase T1 (A. oryzae) at alkaline pH could be related to the electrostatic potential in the active site pocket, as the potential changes from being attractive to phosphate (violet), to being repulsive (pink), as the pH increases. *Image created by Roland M. H. Gordon-Beresford of Universite Libre de Bruxelles — Unit de Conformation des Macromolcules Biologiques, using a 4D/340S & 4D/25GT and BRUGEL, M. Connolly's MS, TESSEL, DELPHI, MTVSHADE, Utah Raster Toolkit software.*

Image Processing
Vodka
Creating this image involved stripping together two images (neck with straight pour, and background with package), and then warping them. Sections of this pour were used to blend together and warp around corners. Top splashes were then generated and overlayed onto the background. *Image created by Geoff Smith of Smith & Company, using a 4D/80GT and BARCO software.*