

CMP MEDIA LLC

Gamasutra.com

: 2005

Technical Event Wrap Up: SIGGRAPH 2005

Morgan McGuire
2005 8 11

http://www.gamasutra.com/features/20050811/mcguire_01.shtml

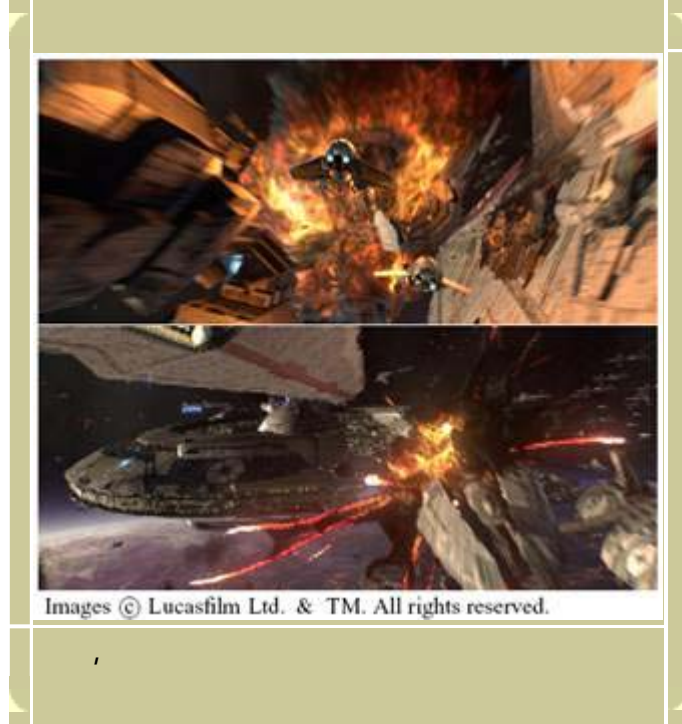
(SIGGRAPH) 가 가
, 가 8 1
가
가
가 가 가
(SIGGRAPH)
가
(Brad Kane) (SIGGRAPH)
가 (Gamasutra)
가

(Modeling)

(Game code) (tool 가
code) 가
(tool)
(SIGGRAPH) 가 (mesh)
(texture)
3

!

(George Lucas)가 (SIGGRAPH) . 1977 ,
 (Star Wars) , 가



(Star Wars) 가
 (dirt) . (Star Wars)

(dirt) (, Rust), (, stains),
 가
 (Lucas)

3D (Star Wars)

(Chen et al.) - _____

(Visual Simulation of Weathering by Gamma-ton

Tracing)

" - (gamma-tons)" , 가

(rust)

가 (, stain) 가 가 AI



가 가

(Lee et al.)

가 (saliency maps)

(). (Lee et al.)

(Mesh Saliency) 3D

가

LOD 가

가

(automated mesh simplifications)

), 가
(salience-based simplification)



(Zhou et al.) _____ : _____ 가
(TextureMontage: Seamless Texturing of Arbitrary Surfaces
From Multiple Images) _____ 가 3D
(tool)

(texturing)

(Maya) 3DS (Max) (u, v)

(Rendering)

가 **(User-Configurable Automatic Shader**
Simplification) (Fabio Pellacini)

(pixel shader code)

(Simple shader)

“(a+b) (a) ”

()

가
가

(Ken Perlin)

(noise generator)

(Wavelet Noise)

(Pixar, Cook and DeRose)

가

(wavelet noise)

(Perlin Noise)

가
250

C

가
(C source code)

가

PRT(Precomputed radiance transfer)

가

(light map)

가

가

가

가

가

PRT

가

가



(Zhou et al.) (Precomputed Shadow Fields for Dynamic Scenes)

(shadowing effect)
()
가 ,
가

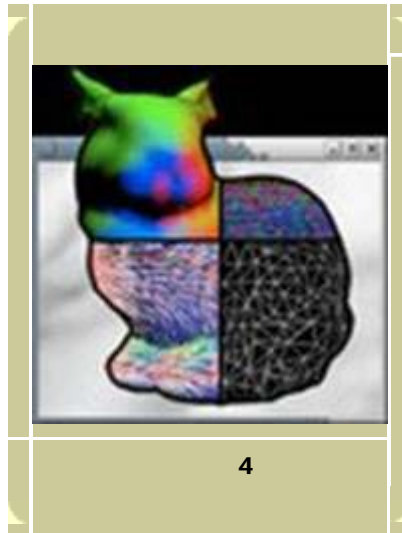
(Wang et al.) (All-frequency Interactive Relighting of Translucent Objects with Single and Multiple Scattering)

(scattering)
가 (Kristensen et al.) (Precomputed Local Radiance Transfer for Real-Time Lighting Design) 가

(rendering) 가 (Sloan et al.) Local, Deformable Precomputed Radiance Transfer 가

PRT (encoding) 가
" " (demo) ,
(sub-surface scattering), (soft shadows)
(interreflection) 240fps !
가 , 가

PRT (non-local shadowing) 가 , 가
가 , PRT 가



(profilers) (debuggers)
 (GPU) CPU
 (coding)
 (Duca et al.) GPU (debugger)
(A Relational Debugging Engine for the Graphics Pipeline)
 OpenGL
 가 (debugger) GPU GPU
 (debugger)가
 SQL
 (debugger) (query)
 (wireframes), 가 (color-coded renderings),
 (textures) (visualizations)
 "printf"
 (debugger)
(Physics and Animation)
 (Modeling) (rendering) (screenshots)
 - (screenshots-physics)가
 (Real-time physics)
 (middleware)

(physics)

(physics)

(physics)

(Kaufman et al.)

(Fast Frictional Dynamics for Rigid Bodies)

(non-linear friction)

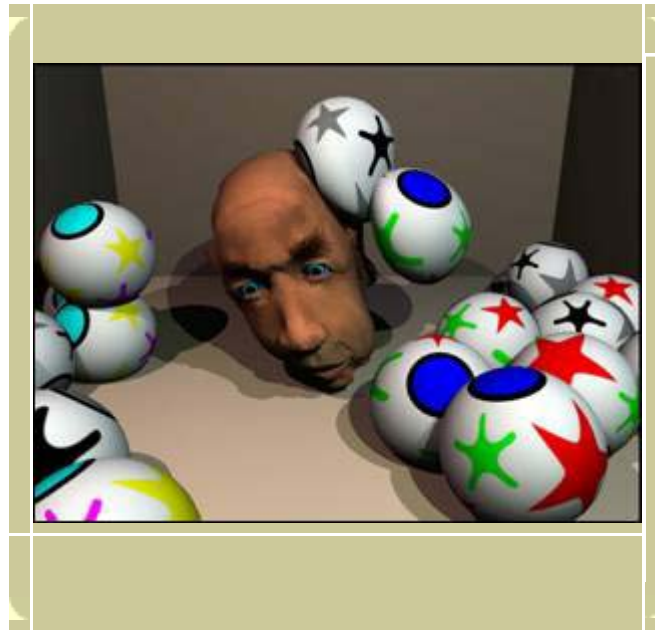
(physics)

가

()

(Java)

C++



(Muller et al.)

가

(Meshless

Deformations Based on Shape Matching)

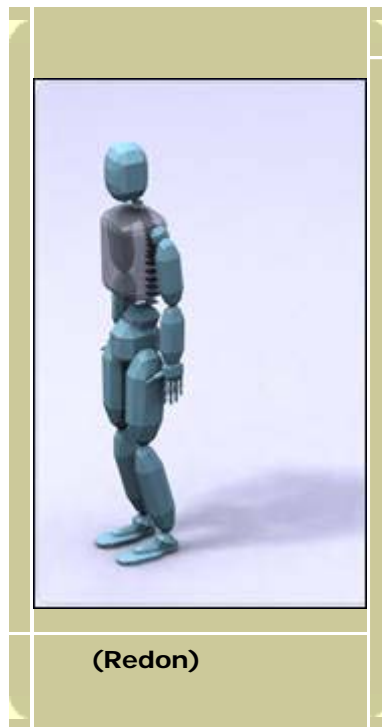
(demo)

가

(demo)

가

(physics)
 !
 가 (physics)
 가
 (physics)
 가 10,000 가



() (physics)
 (Redon et al.) (Adaptive Dynamics of Articulated Bodies)

()
 10~100 가 ()
 (Zordan et al.) (Dynamic Response for Motion Capture Animation) (rag-dolls)
 (motion capture data) 가

(Zordan et al.)

가

가

(stock damage animation)

(ultra-realistic specific damage)

(tumbling)

가

(linear

blending)

(momentum)

가

(豫稿)

<http://www.cs.brown.edu/~tor/sig2005.html>

(and all

SIGGRAPH)

acm.org

ACM

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(SIGGRAPH)가

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(physics)가

(physics)

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(Kristensen et al.)