IRAY INTERACTIVE

OR HOW TO RENDER AEC INTERIORS FOR REALISTIC STILLS AND VR IN MINUTES

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NVIDIA
PHOTOREALISM IS AWESOME

Tech Design

Automotive

NVIDIA® Iray®

Architecture

Fashion
PHOTOREALISM IS ALSO COSTLY
RENDERING SOLUTIONS

Raster Graphics

Photorealistic Rendering
TYPICAL DESIGN WORKFLOW

- Raster Graphics
- Alternative Solutions “Previews”
- Photorealistic Rendering
TYPICAL DESIGN WORKFLOW

- Photorealistic Rendering
- Raster Graphics

Alternative Solutions
“Previews”

- Yes!
- NO!
- Yes, but... could that table look more cheerful?
Yes!

Yes, but could you make that table look more cheerful?
$1,000,000 QUESTION

$E_v = 97.2284 \text{ lx}$?
$1,000,000 QUESTION
DESIGNING WITH

Photoreal

Interactive

Realtime
DESIGNING WITH

Photoreal

Interactive

Realtime
DESIGNING WITH

Interactive

Realtime

Photoreal
FROM PHOTOREAL TO INTERACTIVE

- Caustics
- Unbiased
- Motion Blur
- Volumes
- Lights
- Subsurface Scattering

NVIDIA Iray Interactive
IRAY INTERACTIVE

Time to first frame

Interactive: 12.8fps

Photoreal: 4.3fps

1280x720, Quadro M6000
IRAY INTERACTIVE

Time to first frame

Photoreal: 4.3fps

Interactive: 12.6fps

1280x720, Quadro M6000

Visual Review
IRAY INTERACTIVE

Time to convergence

Photoreal: 27.2s

Interactive: 9.5s

1280x720, Quadro M6000

Visual Review
IRAY INTERACTIVE

Time to first frame

Photoreal: 2.6fps

Interactive: 10.9fps

1280x720, Quadro M6000
IRAY INTERACTIVE

Time to convergence

Photoreal: 4h30

Interactive: 6.9s

Interior Layout

1280x720, Quadro M6000
IRAY INTERACTIVE

Time to first frame

Photoreal: 2.6fps

Interactive: 5.5fps

Interior Layout

1280x720, Quadro M6000
IRAY INTERACTIVE

Time to convergence

Photoreal: 4h30

Interactive: 3min46s

1280x720, Quadro M6000
INTERIOR LAYOUT WITH HOMEBYME

Push-button rendering for end users

Beautiful  Fast  Easy  Affordable
INTERIOR LAYOUT WITH HOMEBYME

~5mins
4xGrid K520
DESIGN WITH SOLIDWORKS VISUALIZE

Fast, Easy, Fun
INTERIOR LAYOUT WITH HOMEBYME

~5mins
4xGrid K520
INTERIOR LAYOUT WITH HOMEBYME

~5mins
4xGrid K520

Iray Interactive
INTERIOR LAYOUT WITH HOMEBYME

~5mins
4xGrid K520
IS THERE EVEN MORE?
IRAY-VR
IRAY-VR

Precomputation

98 spherical images
IRAY-VR

2.6h

10.4X faster

15min

Photoreal

Interactive

M6000

2x8MP
IRAY INTERACTIVE

Scalability

98 spherical images

M6000

24h

20.4X faster

1 VCA

3h40

1h12

4 VCA

6.7X

Interactive
PHOTOREAL OR INTERACTIVE?

Photoreal

Interactive
CPU/GPU PERFORMANCE

Keyshot
MOULINEX INFINY PRESS REVOLUTION

Samples per Second

- **M6000**: 25.9X, $4000
- **M5000**: 19.2X, $1900
- **M4000**: 13.8X, $850
- **M3000**: 8.2X, $440
- **K2200**: 3.72
- **i7 3930K**: 10.40

**Model courtesy of Moulinex**

**Design by 5.5 Design Studio**
LIGHT/AO MAP BAKING

Future Work

Offline Baking

Realtime Rendering
IRAY INTERACTIVE
Locally
IRAY INTERACTIVE
On the Cloud
NVIDIA IRAY
Plugins
MAKE IT YOURS!

Interactive
IRAY INTERACTIVE

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