



CHAO2GROUP



GPU Rendering Roadshow 2014



How V-Ray RT and NVIDIA GPUs Are Defining a New Filmmaking Paradigm



- A Brief History of Chaos Group
- Why GPU Rendering
- Lighthouse Project
- CONSTRUCT
- The Future

- 2002- V-Ray for Max
- 2007- GPU research begins
- 2009- V-Ray RT
- 2010- V-Ray for Maya
- 2011- V-Ray for Rhino
- 2011- V-Ray for SketchUp
- 2012- V-Ray for Softimage
- 2014- Stay tuned

[gallery](#)[news](#)[products](#)[purchase](#)[downloads](#)[our spot](#)[about us](#)[→ Chaos Group Company Overview](#)[testimonials](#)[→ Dan Wheaton
Digital Matte Supervisor, ILM](#)

"When we started 'The Lone Ranger,' we changed some of the

[→ 15
20](#)

Chao
woul



V-RAY 3.0 FOR MAYA



PROGRESSIVE RENDERING



FASTER RAY TRACING



ARTIST-FRIENDLY USER INTERFACE



IMPROVED V-RAY RT



ADVANCED V-RAY FRAME BUFFER



RENDER MASK



NEW SKIN SHADER



FASTER HAIR



MAX RAY INTENSITY



OPENSUBDIV



ALEMBIC



OSL SUPPORT



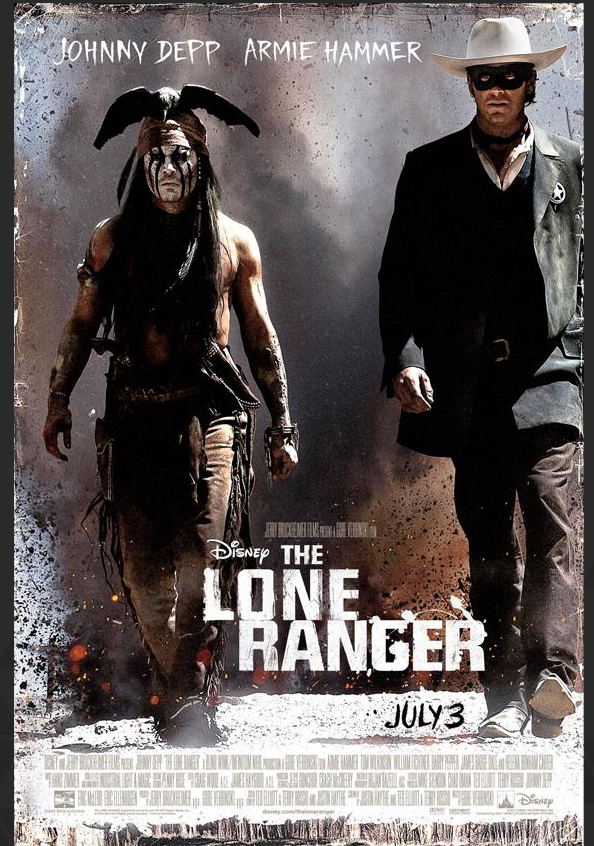
DEEP IMAGE SUPPORT



PHOENIXFD VOLUME SHADERS



- Chaos Group Today



AUTOMOTIVE

TECHNOLOGY

SCIENCE

HOME HOW-TO

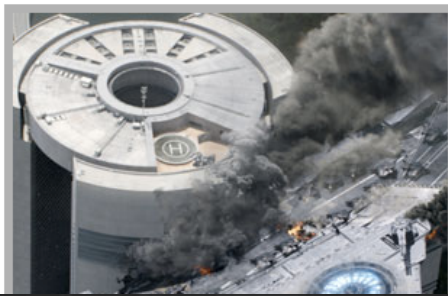
[Homepage](#) / [Technology](#) / [Digital Hollywood](#) / [Visual FX](#) / [Creating the Helicarrier of *Captain America: The Winter Soldier*](#)

Creating the Helicarrier of *Captain America: The Winter Soldier*

How Industrial Light & Magic created the largest CG model in its history.

By Bill Desowitz

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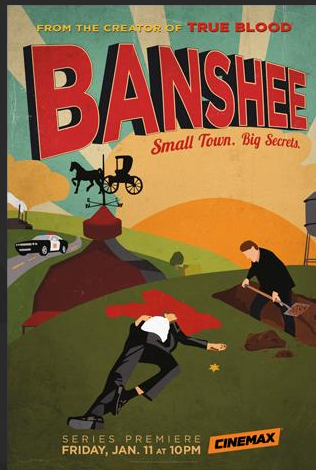
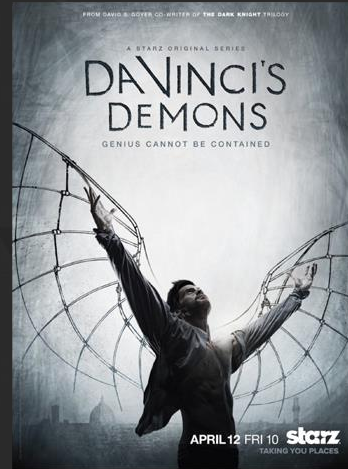
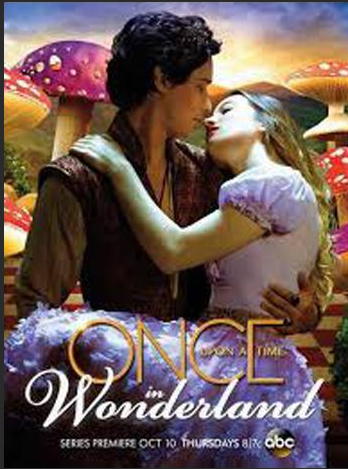


April 7, 2014 5:30 PM

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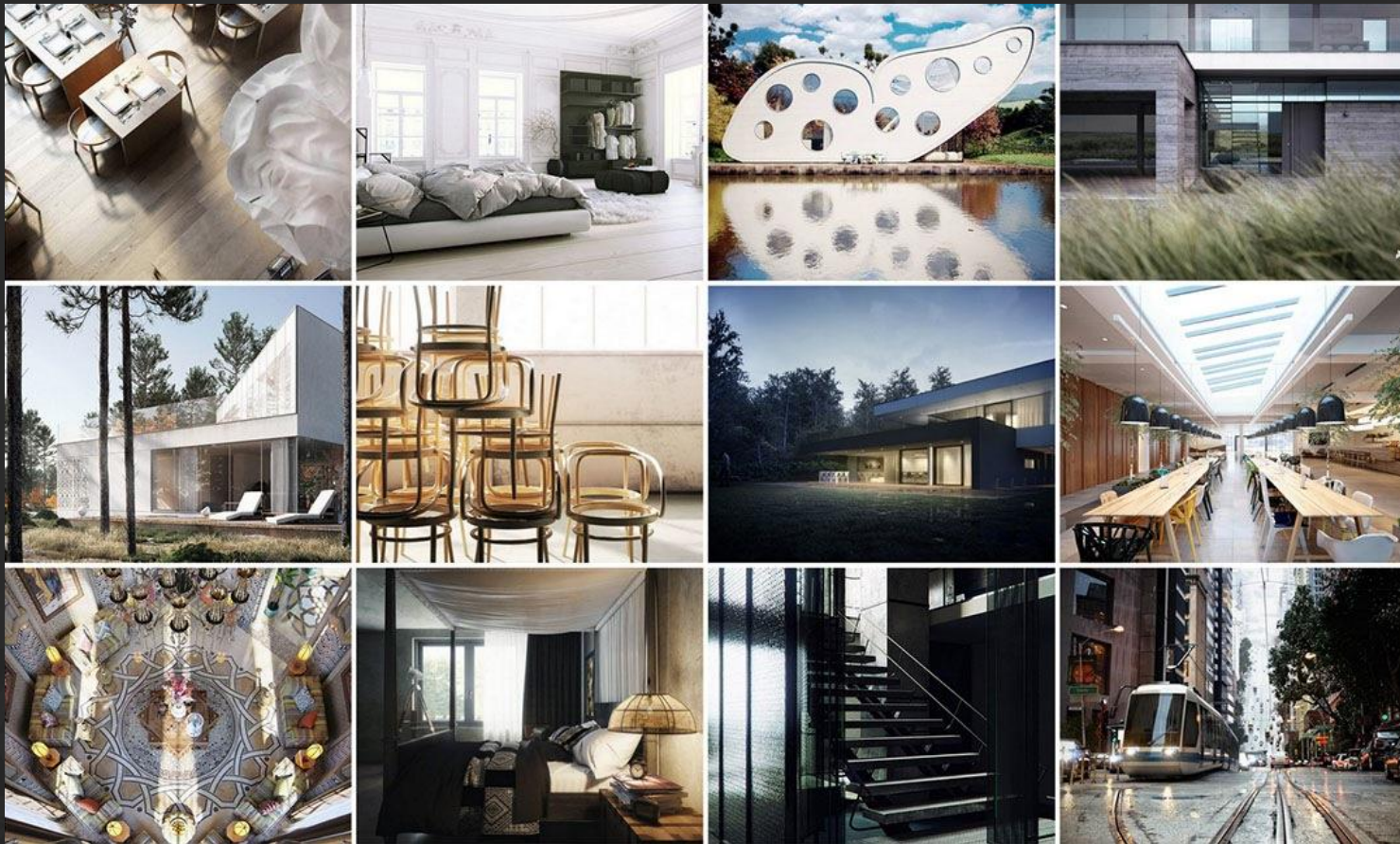
The star of *Captain America: The Winter Soldier* is neither Captain America nor the Winter Soldier. It's the next-gen Helicarrier, a technological marvel and ultimate superweapon that can stay in orbit to target and kill about a million victims at once. But is it a terrorist's worst nightmare, or American militarization out of control? That's the big dilemma facing Chris Evans's Cap and the vaunted S.H.I.E.L.D.





Design






Best Visualizations of 2013





 v.ray

- V-Ray Production
- V-Ray Progressive
- V-Ray RT [CPU]
- V-Ray RT [GPU]

The Roundtable



The Roundtable

A photograph of three men sitting around a dark wooden table in a casual setting, possibly a cafe or office break room. The man on the left is seen in profile, wearing a black long-sleeved shirt and glasses, holding a glass. The man in the center is wearing a grey t-shirt and looking towards the man on the right. The man on the right is wearing a dark button-down shirt, glasses, and a watch, gesturing with his hands as if speaking. There are several glasses and a black cup on the table. The background features a brick wall and a dark shelving unit.

The Cast of Characters

Mike Romey

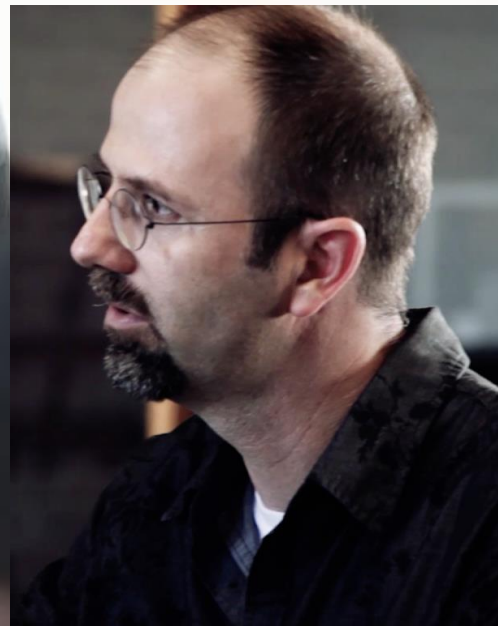
Head of Pipeline
ZOIC Studios



Kevin Margo

VFX/CG Supervisor
Blur Studio





Christopher Nichols

**Creative Director
Chaos Group LABs**



Vlado Koylazov

**Chaos Group
Co-Founder and
CTO**



Why GPU Rendering



Lighthouse Project



GPU Breakthroughs

///CONSTRUCT///



///CONSTRUCT///

- CG animated short film
- Tell a personal story
- EXPLORE and DEFINE new filmmaking techniques

///CONSTRUCT///

version: 2018-08-01
version: 2018-08-01

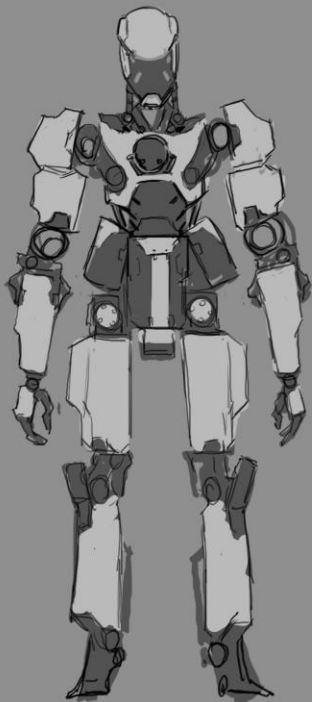
- Designed with the GPU in mind
- Small team
- Massive computational power
- Small footprint

///CONSTRUCT///

///CONSTRUCT///



A



B



C



D



E

///CONSTRUCT///

Bill



Wife



Child



Foreman



Worker



1970 kloster eberbach - steinberger (rhine) color palette



1970 chevrolet chevelle malibu ss 396 color palette



bill's family

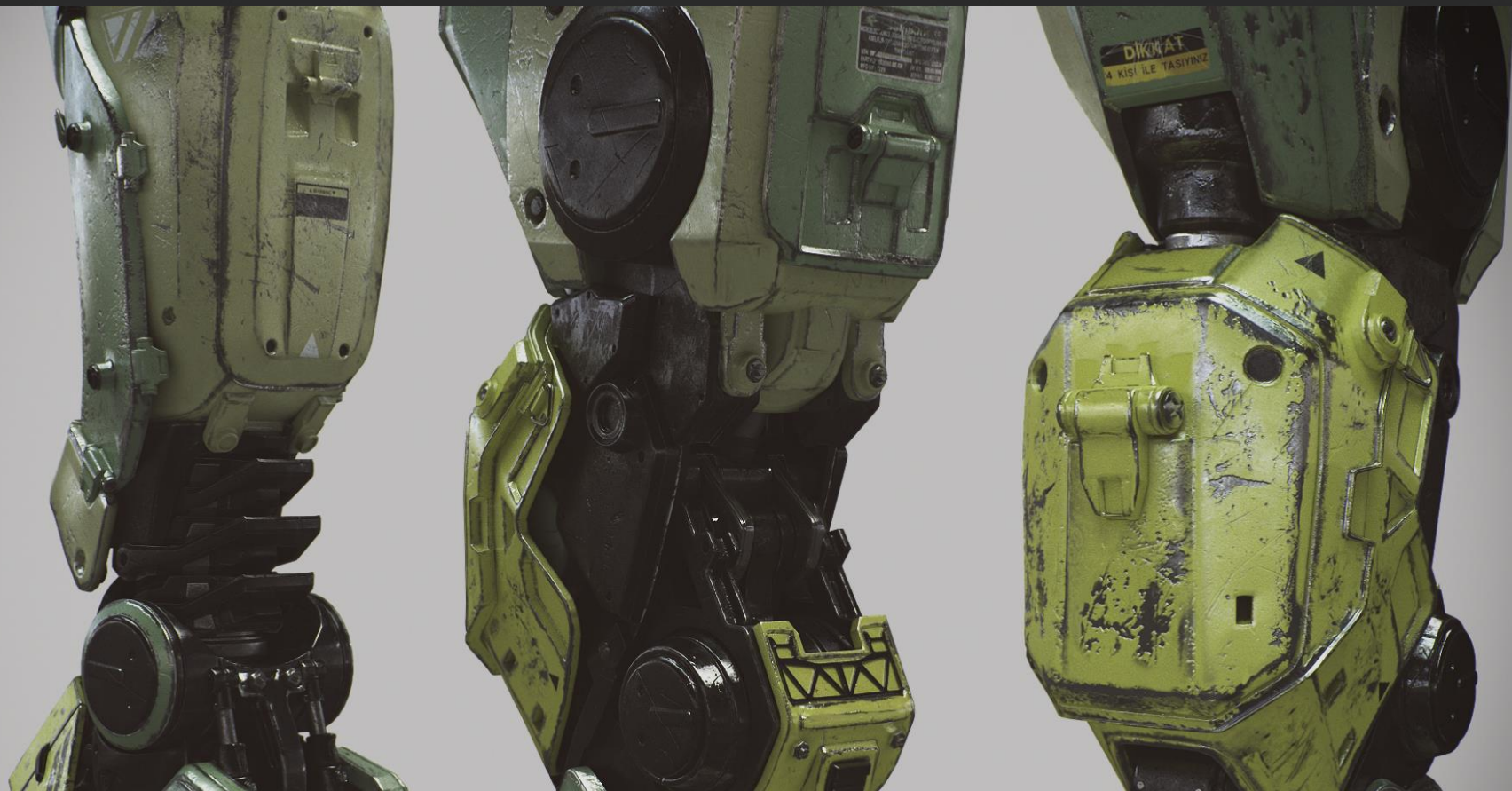
woodhorn classic car rally color palette



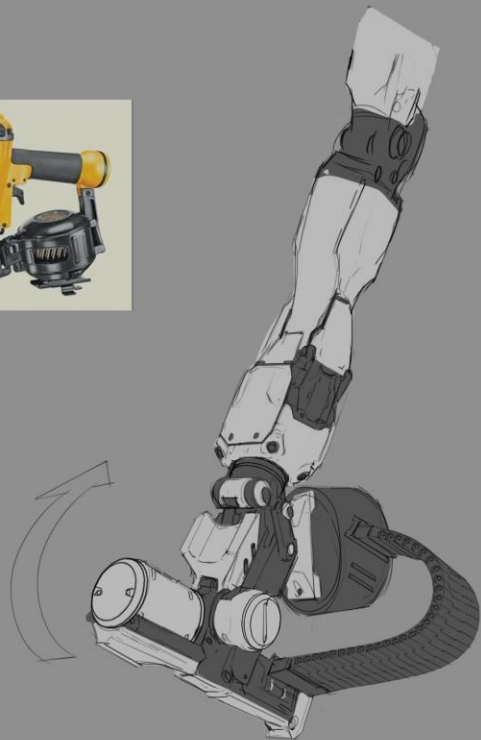
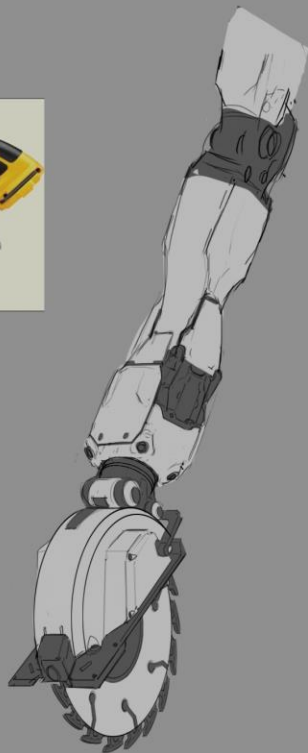
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V4
1891.7
3m 28
223 pathfind
Engine: CLDA (p

///CONSTRUCT///

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perkins + will photo credit: www.perkinswill.com

- HD Final Frame Rendering 5-7 minutes
- 1 K6000, 2 K40s
- Rendered on 3 machines

///CONSTRUCT///





Rendering During Production

V-Ray App SDK

Clara.io BETA

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3D Creation and Sharing on the Web



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///CONSTRUCT///

- Real world light and surface simulation
 - Physically accurate materials
 - Physically accurate lights





The Future of Filmmaking



Democratizing the Creative Process

Coming to V-Ray RT



Coming to V-Ray RT

- Displacement
- Subsurface Scattering
- Hair
- Volumetrics



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