The Diminishing Need for Offline Rendering:
Building Real Time Projects for Both Design and Marketing with RTX
1) What is *real time* vs *offline*?
2) What is *design* vs *marketing*?
3) How these fields are merging
4) Nvidia RTX technology
5) Building UE4 projects to maximize usability
Real Time vs Offline
Real Time

11 milliseconds

VS

Offline

4 hours

Image credit: “Robo Recall”, Epic Games

Image credit: “Avatar”, 20th Century Fox
Design vs Marketing
Real Time vs Offline

Maya viewport / maya render

Image credit: “3ds max vray interior lighting and rendering tutorial”, Anil Shama’s Tutorials
Design

Fast and loose, preferring iteration speed over perfection.
Marketing

Slow and perfect, for when it counts.
Classical Rendering Ideology

Design
- Simple Graphics
- 3D Models
- CAVE
- Simulation
- Configurability

Marketing
- High-End Graphics
- Static Content
- Touchscreens
- 360-degree renders
- Location Based “Experience”
- 2D End Products
- 3DS MAX
- MAYA
- v-ray
The Closing Gap

Image credit: Transparent House

Image credit: hpetrov.com
Image credit: “Vray for Unreal”, Chaos Group
The Closing Gap

Image credit: “Octane for Unreal”, Otoy
Modern Rendering Ideaology

**Design**
- High-End Graphics
- Configurability
- 2D End Products
- 3D End Products
- Static Content
- Interactive Content
- 360-degree renders
- Virtual Reality
- Augmented Reality
- Projection Domes
- Touchscreens
- Simulation

**Marketing**
- Location Based “Experience”
“Oh, our marketing team uses completely different files than we do.”
The Real Time Future
Recent Advances with RTX
Hybrid Raytracing

1) Use the blazing fast game engine for the heavy lifting

2) Sparingly use raytracing for that last 5% of quality
Be careful

Framerates will plummet without special care.

• Carefully manage number of pixel samples
• Hide unnecessary objects from reflections
• Don’t rush to replace all static lighting
Easy access to RTX settings across:

- Post Process Volume
- Lights
- Console Commands
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