Voumetric Camera Systems

Capturing cinematic quality holograms to make the virtual world indistinguishable from the real world.

Tobias Chen

"This 360 video is cool, but I really wish I could walk around in here".

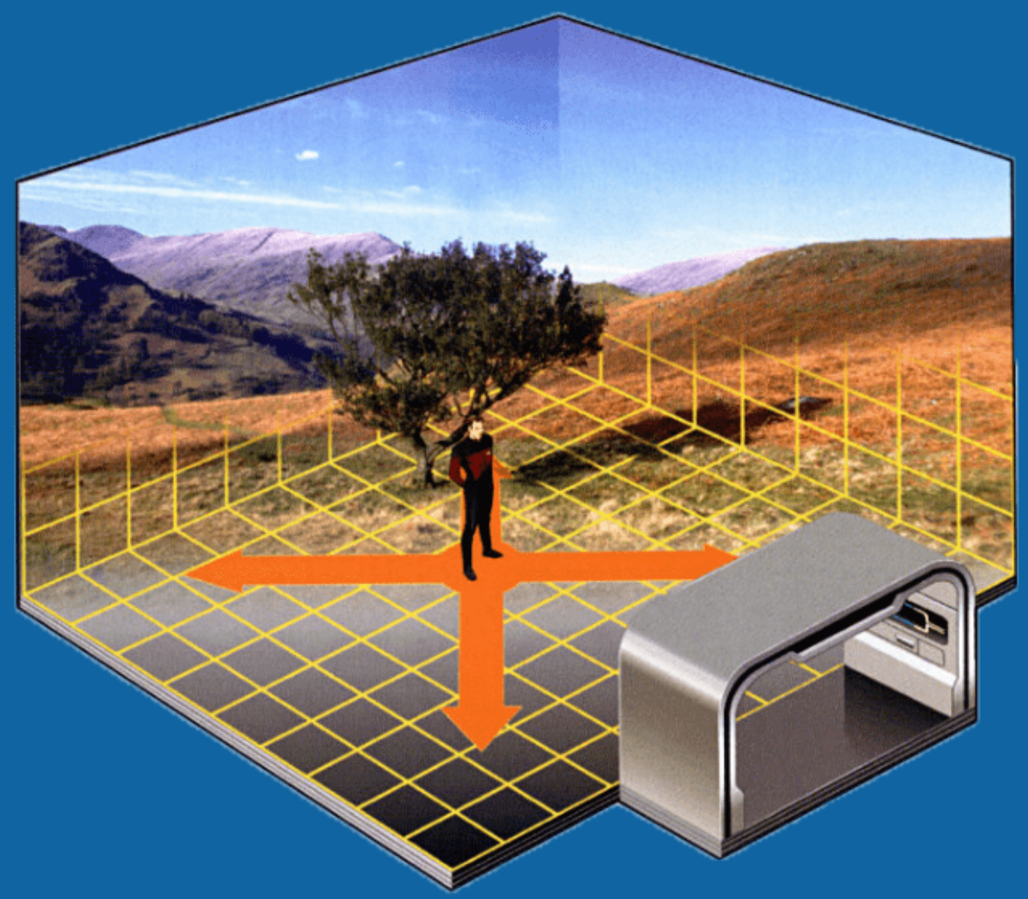
360 videos are not immersive because the world is not flat.

What is Volumetric Video?

360 VR video = look around in different directions

Volumetric VR video = look and **walk around inside the video**, while it's playing

We have been able to apply this technology, not only for **entertainment** and **games**, but also for **architecture**, building inspection modeling(**BIM**), **educational content** and **procedural surgery training**.



Capturing high quality content for VR/AR is hard
(The Problem)

Volumetric capture today is **expensive.** (ie: Microsoft charges $10,000 - $20,000USD per minute).

Despite the high price, output today still looks like a video game character. **Not photo-real.**

All systems today are locked to a giant green screen stage, with a large crew and huge overhead costs. **Not portable.**

Feel the difference?

MICROSOFT QUALITY

OUR QUALITY

Our systems solve this problem
(The Solution)

Our capture services exist at a **lower pricepoint** than any competitor.

Unmatched **"Cinematic Quality"**.

Lightweight and **portable**.

Shoot anywhere, **no green screen** needed.

No large crew needed to operate.

Platform agnostic cross-compatibility for delivery. Oculus, Vive, or Looking Glass

Recording People + Environments for VR / AR / XR

Compatible with Looking Glass + Windows Mixed Reality Headset

Looking Glass Light Field Display

Why this is effective?

Cross-platform integration with existing 3D platforms that already have many users. (ie: Sketchfab, Facebook)

Fast processing with **scalable cloud-based** systems.

Using a novel pre-trained **neural net** to enhance our data with machine learning.

Dynamic compression enables **device agnostic cross compatibility**. Not limited to Mobile Phone/VR/AR headsets.

Our Track Record
(Non-NDA Clientele)

(Deliverable: Custom 6K VR Drone Camera)

(Deliverable: Custom pipeline for Volumetric Room Capture+Visualization)

(Deliverable: Custom VR camera system)

(Deliverable: Custom live-streaming VR camera system for Crown Cup event)

(Deliverable: Custom Stereo 180 Camera + Custom VR Drone Camera)

Others need Cameras + Computers

NOT PORTABLE

Microsoft's Seattle Volcap

Microsoft's Metastage Volcap

EXIT
Sheep

Adobe After Effects CC 2018 - /Production/Documents/ ... as Chen/2018-09-26 AE Cowgrammetry/AE Volumetrics/VolumetricRendering.aep *

Snapping | Default | Standard | Small Screen | Libraries | Search Help

Effect Controls VolumetricRendering.c4d

VolumetricRendering • VolumetricRendering.c4d

fx CINEWARE Reset Options... About...

CINEWARE by MAXON

CINEWARE Help	Show
Live Link	Enable
▼ Render Settings	
Renderer	Standard (Final)
Display	Current Shading
No Textures/Shader	☐
No pre-calculation	☑
Keep Textures in RAM	☐
Render Server	Purge Memory
▼ Project Settings	
Camera	Select Cinema 4D Came
	Set Camera...
	Set Take...
Cinema 4D Layers	☐
	Set Layers...
▼ Multi-Pass (Linear Workflow)	
Cinema 4D Multi-Pass	☐
	Set Multi-Pass...
Defined Multi-Passes	☐
	Add Image Layers
▼ Commands	
Comp Camera into Cinema 4	Merge
Cinema 4D Scene Data	Extract

Composition VolumetricRendering | Footage VolumetricRendering.c4d

VolumetricRendering

Renderer: Classic 3D

Active Camera

(55.5%) 0:00:00:03 (Full) Active Camera 1 View +0.0

Info | Audio | Preview

Shortcut: Spacebar

Include:

Cache Before Playback

Range: Work Area Extended By

Play From: Current Time

Frame Rate: (30) Skip: 0

Full Screen

On (Spacebar) Stop:

If caching, play cached

Move time to preview

Effects & Presets | Align | Character | Paragraph | Tracker

Render Queue | VolumetricRendering

0:00:00:28
00028 (30.00 fps)

#	Source Name	Mode	T	TrkMat	Parent
1	Camera				None
2	VolumetricRendering.c4d	Normal			
	Effects				
	CINEWARE	Reset Options... About...			
	CINEWARE Help	Show			
	Live Link	Enable			
	Render Settings				
	Project Settings				

00f 05f 10f 15f 20f 25f 01:00f 05f 10f 15f 20f

Expandable System

Use in any config

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