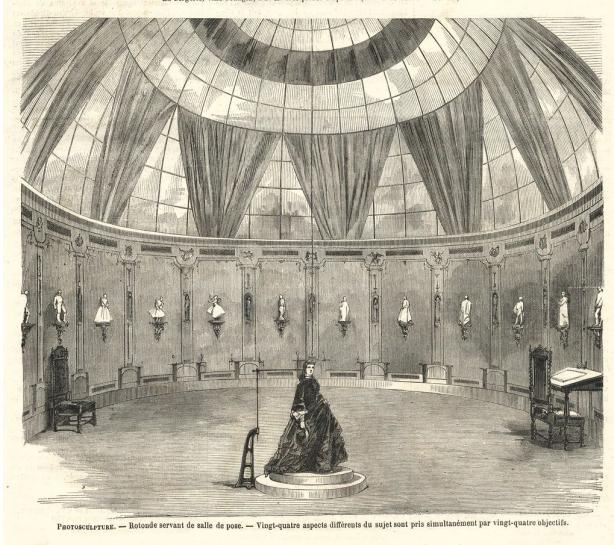


Get into the depths of
Depthkit!

<3 Priyanka <3 Cindy <3 Elif <3

François Willème, photosculpture (1859)



What is volumetric filmmaking?

- ★ Combines the artistry of cinema with the interactivity of gaming, and uncovers visuals beyond the limits of traditional media
- ★ Sensor depth data mapped to RGB video feed
- ★ Live 3D scan



Volumetric films

Select Depthkit Projects (for Partner...) ⓘ | ⚙ Use this data

Filter Sort ...

Sign up for free Airtable

Zero Days VR

Credit
Yasmin Elayat Scatter

Format
Virtual Reality

Awards
Emmy Webby Unity Vision Award

Project Info
<https://www.zerodaysvr.com/>

Trailer / Documentation
<https://www.youtube.com/watch?v=E...>

Download / Experience
[Oculus Store](#)

CLOUDS

Credit
James George, Jonathan Minard Scat...

Format
Interactive (Screen) Virtual Reality

Awards
Tribeca Storyscapes Award

Project Info
<https://cloudsdocumentary.com/>

Trailer / Documentation
<https://vimeo.com/89680830>

Download / Experience
[Download App](#)

Changing Same: An American ...

Credit
Yasmin Elayat, Joe Brewster, Michèle ...

Format
Virtual Reality

Awards
Tribeca Best Immersive Narrative

Project Info
<https://www.scatter.nyc/productions/t...>

Trailer / Documentation
<https://vimeo.com/508585394>

Download / Experience

CKOUT

Credit
Tribeca Givaudan

Format
Virtual Reality

Awards

Project Info
<http://blackoutvr.com/>

Trailer / Documentation
<https://vimeo.com/304005035>

Download / Experience

Blackout

Credit
Alexander Porter, Yasmin Elayat Scatter

Format
Virtual Reality

Awards

Project Info
<http://blackoutvr.com/>

Trailer / Documentation
<https://vimeo.com/304005035>

Download / Experience

Imogen Heap Concert

Credit
Wave XR

Format
Virtual Reality

Awards

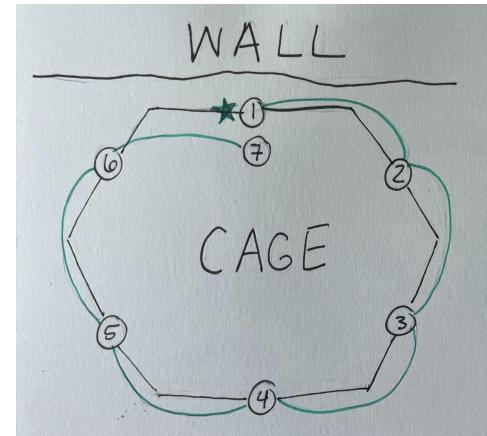
Project Info
<https://www.theguardian.com/technology/2018/aug/31/imogen-heap-the-wave-vr>

Trailer / Documentation
<https://www.youtube.com/watch?v=0...>

Download / Experience
[SteamVR](#)

Depthkit workflow

- ★ Our rig: 7 Azure Kinect sensors (depth + RGB)
 - Camera 1 is the “hero” cam, generally the subject will face that camera
 - The more cameras you add the more “complete” final mesh you will get but more processing time!
- ★ Depthkit Studio software stitches together the data from all the sensors to create one 3D video asset
- ★ Depthkit computer (in the Media Commons)



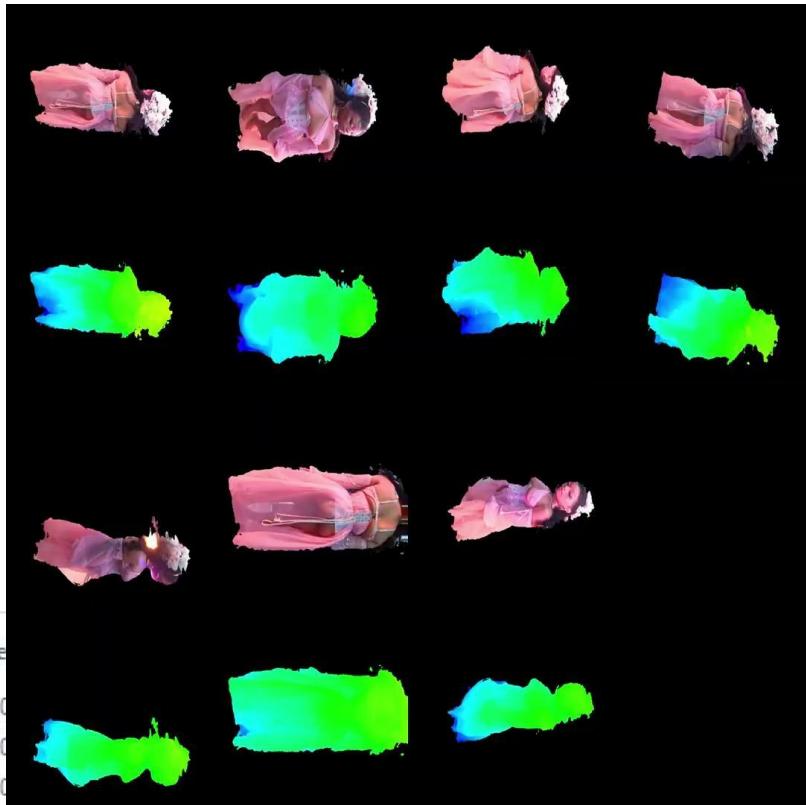
Export file → CPP

The **combined-per-pixel format** includes both the depth and color data in a single video file or image sequence that is optimized for playback using the [Depthkit Expansion Packages for Unity](#). This produces three files in your specified export path:

- combined-per-pixel video
- poster image
- metadata file

Depthkit Project > _Exports

Name	Date modified
TAKE_09_20_16_09_20_EXPORT_09_20_16_09_30.mp4	9/20/2018 4:00:00 AM
TAKE_09_20_16_09_20_EXPORT_09_20_16_09_30.png	9/20/2018 4:00:00 AM
TAKE_09_20_16_09_20_EXPORT_09_20_16_09_30.txt	9/20/2018 4:00:00 AM



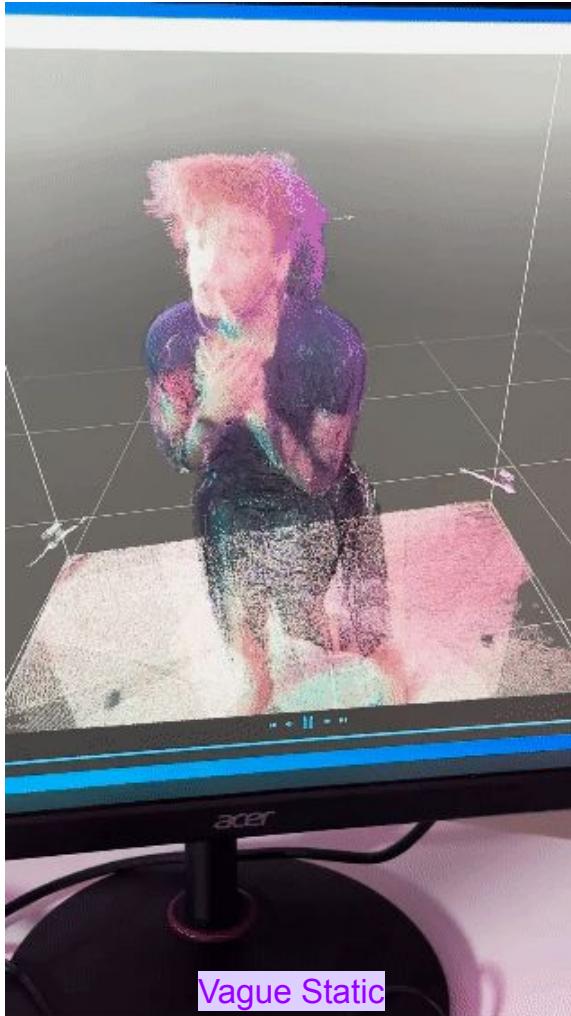
Drag Archive (WIP), Kay + Cindy + Priyanka + Elif



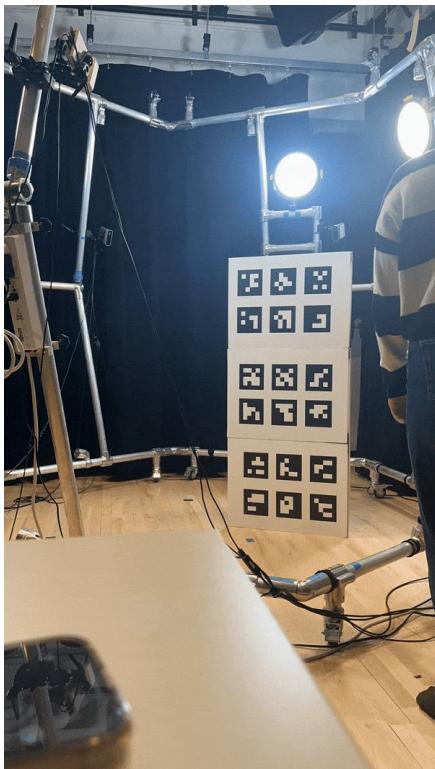
Sweaty Eddie @sweatyeddie.tv



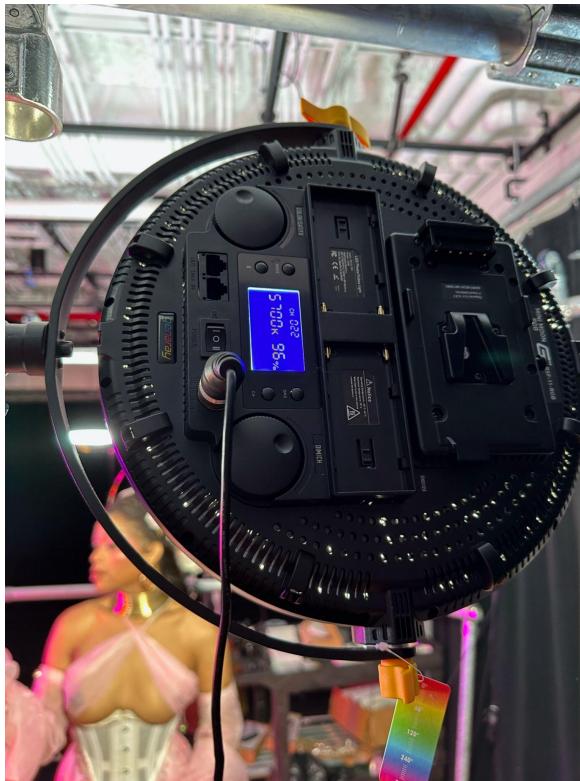




Before the Shoot



Calibrate



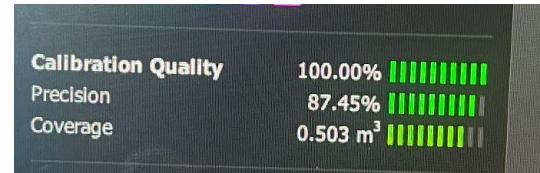
Lighting



Define range of motion

Calibration

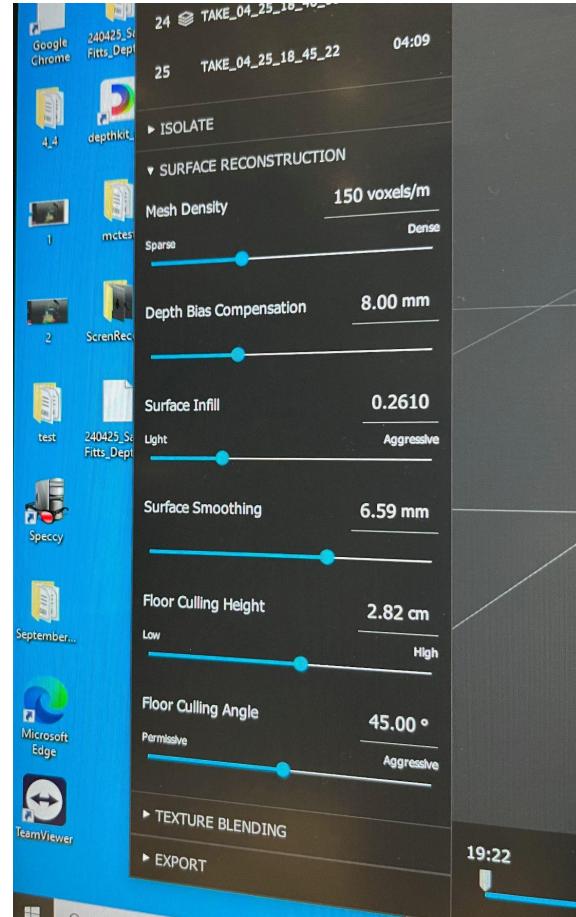
- ★ Double check **camera angles** so we get the whole subject on camera (head to toe)
- ★ Run through calibration sequence
- ★ Keep an eye on **quality, precision, coverage** in DK software
- ★ When done, double check the video feeds one sensor at a time before capturing a take
- ★ **Don't touch the cage after calibration!**



Problems in calibration can create dead spots in the capture – watch Kay disappear!

Post production

- ★ Be prepared for ... **experimental-looking** output, lean into the glitch!
- ★ Some fine tuning is required for the stitched-together result to look good
 - Define **bounding box**, scrub through video to **trim**
- ★ Export files to hard drive, .obj sequence takes more time
- ★ CPP files can be **imported into Unity**
 - Create a video with scripted camera movements
 - Create a playable game to interact with asset
- ★ WebGL → embed asset in a custom website (but don't ask us about this because we haven't done it!)



Let's go!

What we will do today:

- ★ Calibration
- ★ Get people in the cage to see what it feels like!
 - Think about your “idle” and “active” pose
- ★ Let’s record some takes
- ★ Make the export files available to attendees
 - Exporting takes time - we will see how many clips Cindy and I can export, will share Google Drive folder with the whole group

Resources: Depthkit

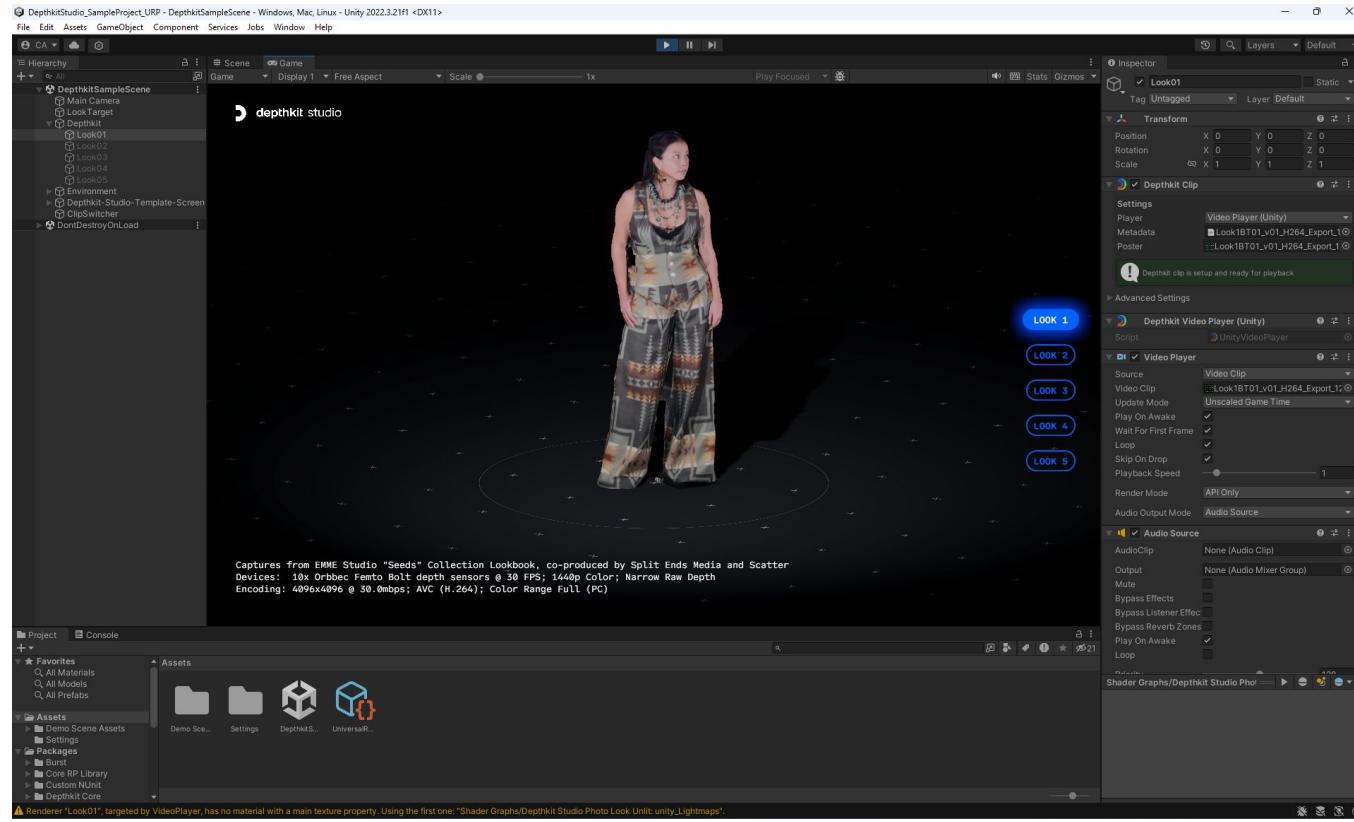
Depthkit Studio software documentation

<https://docs.depthkit.tv/docs/depthkit-studio>

Forum

<https://forums.depthkit.tv/>

Resources: Depthkit Expansion Package



Depthkit →
Unity tutorial