



5G + 4D = REALITY

FAST MOBILE DATA FOR INCREASED QUALITY IN VOLUMETRIC VIDEO

ABOUT ME



CTO and Founder

Underminer Studios &
Volumation



Full Sail University

BA, Computer Animation



10 years+ Industry

GameLoft, Two Bit Circus,
Sony Picture Imageworks



**Technical Artist
and Pipeline TD**

Optimization, Automation,
and Pipelines



50+ Credits

Video Games, AR, VR,
and more



Intel Software

Top Innovator
2017 & 2018

VOLUMATION

A modular solution for volumetric content creation using principals of photogrammetry for video to capture real people, places, and things with proprietary timing sync and calibration for ANY rig from off-the-shelf to professional. Processing happens in a distributed system to fit any workflow with a la carte post-production services including de-lighting, texture cleanup, and more. Optimization for any digital platform and an FBX file output. The next generation of video is a differentiator for anyone using digital content.

HOW IT WORKS

BRIEF OVERVIEW OF
OUR PROCESS

BENEFITS

Scene Ready
Automated Workflow
Bulk Cleanup
Import into any DCC/Engine
Optimized for PC @ 1.7-10mb/s*
Distributed Systems can scale
Custom Services Available

MODULAR SERVICES

De-lighting
Texture Cleanup
Surface Smoothing
Platform Specific Optimization
Temporal Preservation
Plugin for Import
Photogrammetry



**Assets are
downloaded**



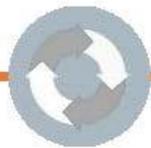
**Spreadsheet of
names and process
details**



**Information is
parsed**



**Assets and data
placed into
proprietary
software**



**Assets are
processed**



**Assets are
delivered**



WHY 5G FOR CAPTURE



GOOD USE CASE

<https://youtu.be/PCDVnCHnEhg>



BETTER USE CASE



BEST USE CASE



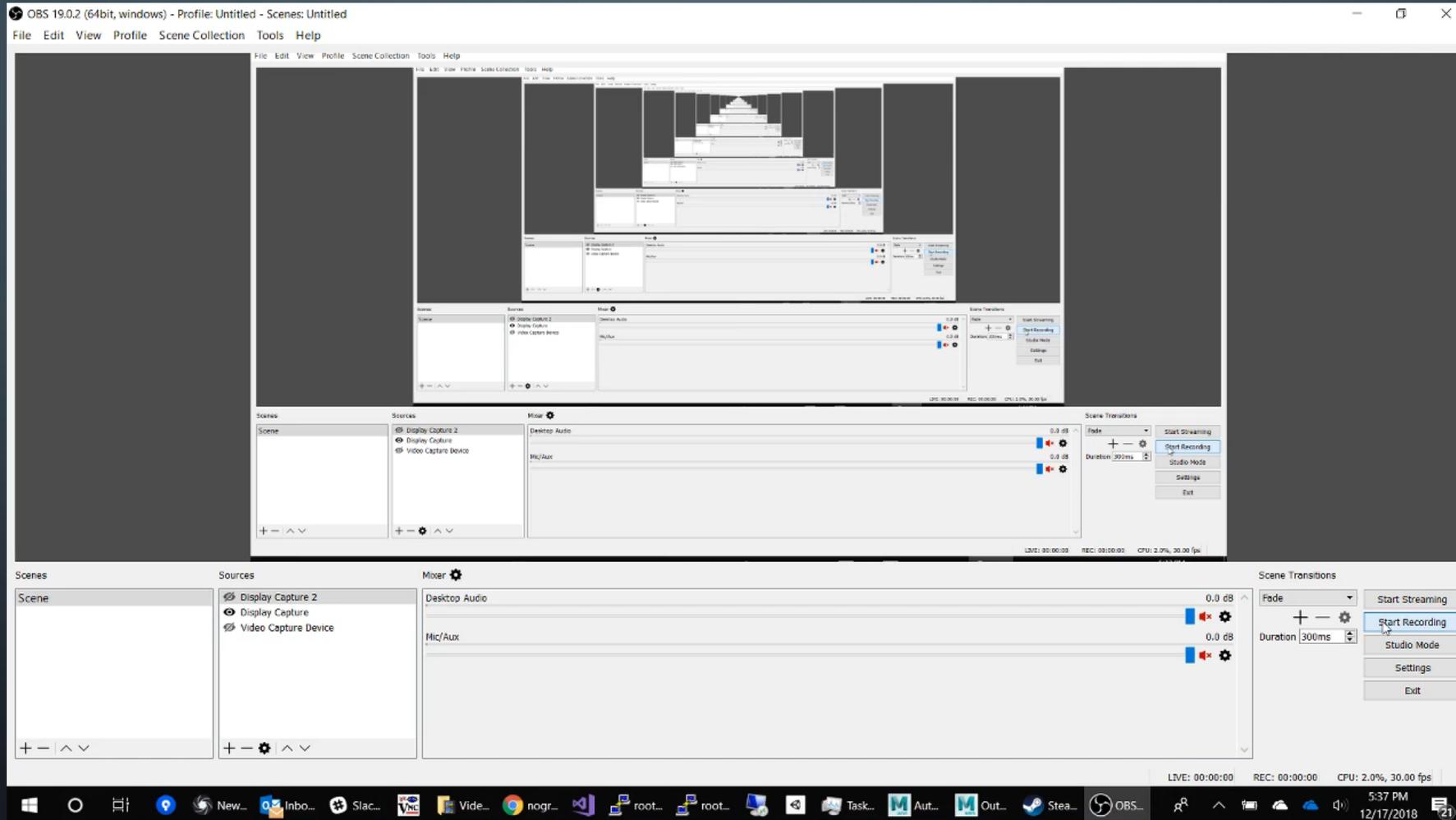


WHY 5G FOR TRANSFER



1. Companies don't always have good internet/consistent internet
2. Use Case – St. Elmos

3. Allows for calibration tests Short frame tests for lighting consistency / Sheen / depth segmentation / time consistency



<https://youtu.be/-6daQPLuA7w>

Bad Calibration



WHAT GOOD IS A HEAD
ONLY RIG



OPTIMAL SHOOT

- Portability With Optimization for Mobile Transfer
- Full body 108 cameras 1 minutes 108 gb
- Head 20 cameras 1 minute 20 gb
- Photos – Hawgfly

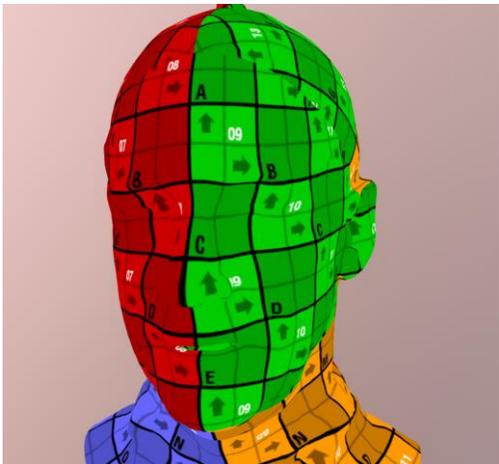
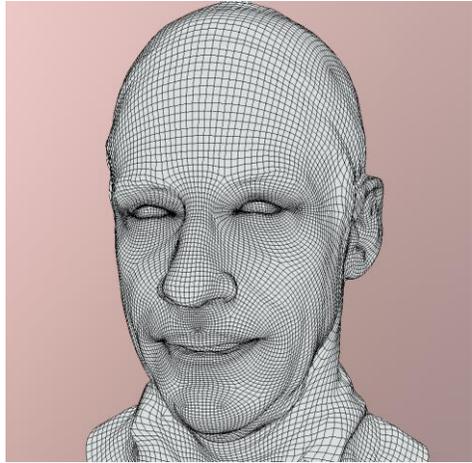


HEAD REPLACEMENT WITH MOTION CAPTURE

- Allows for separately driving body and facial animations
- R&D Phase

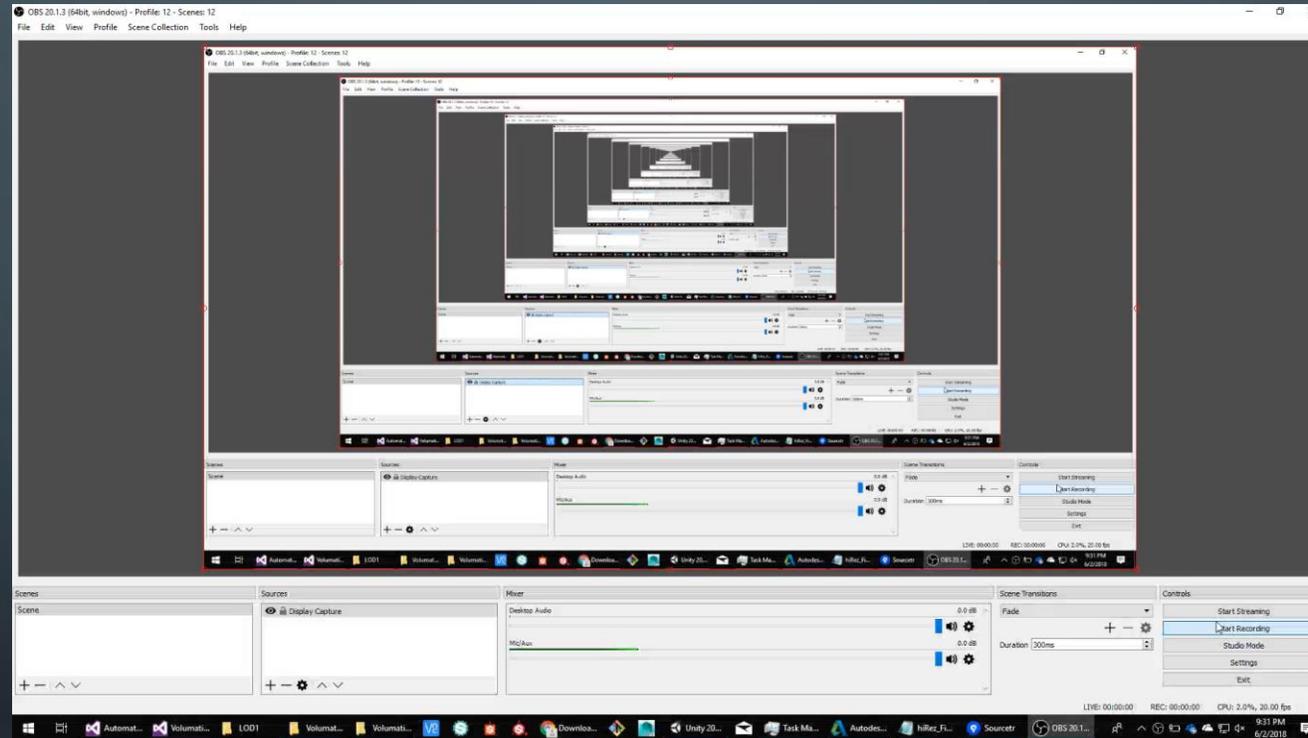


BEFORE: ALLOWS FOR
MASSIVELY OPTIMIZED /
CLEAN HEADS



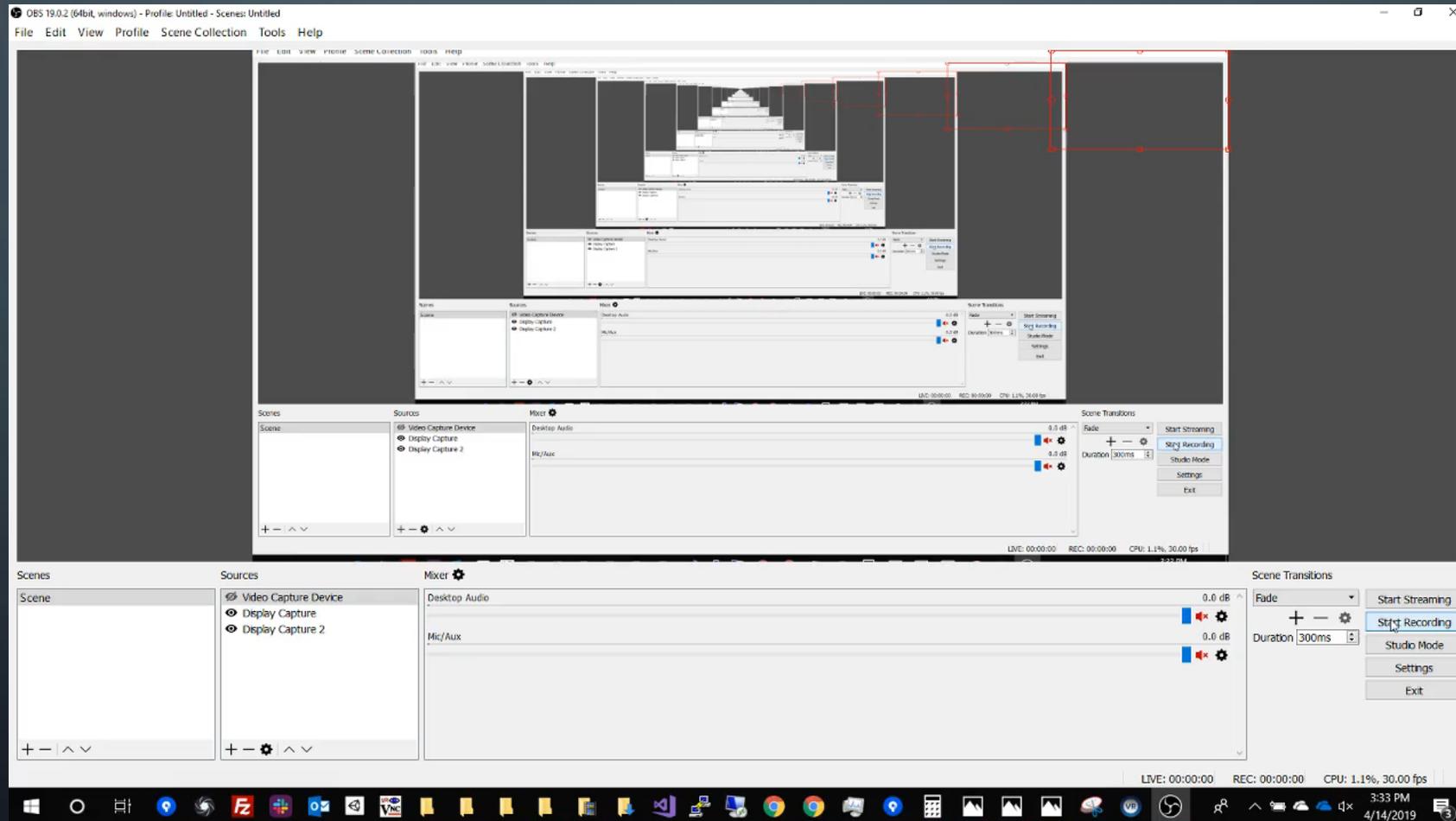
AFTER: ALLOWS FOR
MASSIVELY OPTIMIZED
/ CLEAN HEADS

INPUT ANIMATION



<https://youtu.be/-6daQPLuA7w>

TEMPORAL PRESERVATION



Q & A

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