Overview

Company

FOVAS Streaming Technology

Cloud Processing Pipeline
Pixvana

Building a comprehensive Cloud Video Computation and Delivery Platform for next generation VR Video

Forest Key, CEO
Product Manager for V1 end-to-end video stacks of both Adobe Flash and Microsoft Silverlight: server, client, authoring, DRM, partner ecosystems. Lucasfilm CGI artist. 2x prior media-tech founder/CEO with public company exits.

Scott Squires, CTO
Former Lucasfilm VFX Supervisor and technology lead, multi-film Academy Award nominee for VFX, recipient of Science & Technology Academy Award.

Bill Hensler, CPO
Engineering lead for Adobe Creative Suite video product and servers technologies, and photography tools at Apple. Early digital video editing tools and hardware pioneer.

Sean Safreed, CMO
Graphics processing and pipeline tooling veteran at Apple, SGI, and founder of leading motion graphics and VFX tools vendor Red Giant (products currently in used by 200k+ artists).

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Introduction to Field of View Adaptive Streaming

View on YouTube: https://youtu.be/_eFKBg5RXK8

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Field of View

The gray area represents all the pixels that are sent to the user but unseen when streamed to an HMD.
Without FOVAS Streaming

1. Equirectangular master is encoded at up to 4k resolution

2. MPEG Dash preparation creates multiple versions at varying resolutions & data rates

3. Client HMD or web browser (eg: YouTube) gets the entire 360° view but only about 1/6th of view is needed

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VR with FOVAS Streaming

1. Equirectangular master is created at up to 10k resolution

2. FOVAS preparation extends MPEG Dash with additional variations of stream, adapted to viewer’s FOV

3. Client receives a FOV optimized image with higher resolution, with overall lower file size

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SuperNova

Red Giant’s image processing framework for desktop

A library of over 500 GPU shader

Extended to run on Linux servers

Can mix CPU (e.g. OpenCV) and GPU functions
XR Cloud Processor on AWS

Master

S3 Storage

Media Manager

SuperNova Cluster

Hundreds of GPU instances

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Thank You!

Sean Safreed
Cofounder, CMO
sean@pixvana.com