From: John Jack

Sent: Tue, 7 Nov 2017 15:22:41 +0000 (UTC)

To: Nick Whiting <

Cc: James Golding <

: Jeff Farris Joe Graf 🗠 Kim Libreri 🖣

: Michael

United States District Court Northern District of California

Susan Y. Soong, Clerk

, Deputy Clerk

Case No. 4:20-cv-05640-YGR Case Title Epic Games, Inc. v. Apple, Inc.

Exhibit No. DX-3556

Date Entered

By:

Balog ≤ ; Nick Penwarden

Subject: Re: Face Tracking w/ARKit - Apple Call - 2017-10-26

+James so he's in the loop

On Thu, Nov 2, 2017 at 5:18 PM Nick Whiting wrote:

Sweet!

On Thu, Nov 2, 2017 at 8:54 PM, Kim Libreri wrote:

Awesome news

On Thu, Nov 2, 2017 at 2:25 PM, Joe Graf < wrote:

Slightly unrelated but related, I found the hardware accelerated HEVC apis that iOS devices support. This means the AR streaming thing I did can be hardware encoded/decoded on iDevices to/from Mac/PC. Once Tiger/Siren wrap up, I'll get that working and then work with the engine area owners to get it into a mechanism that can be merged into the main code.

On Tue, Oct 31, 2017 at 1:03 PM, John Jack < wrote:

## Attendees

Vlad Matilovic - 3Lateral JJ, Jeff Farris, Michael Balog, Kim Libreri Rob Partington, Allan Schaffer

Summary

We had a call last week with Allan Schaffer (ARKIt devrel) and Rob Partington (Media & Entertainment devrel) from Apple developer relations re: face tracking with ARKit on the iPhoneX.

We outlined to Apple that we want to do an animated CG character driven by an iPhoneX, probably for GDC. They're very supportive of the idea, especially if it's also displayed on an iMac Pro.

We went over some of the points covered in this video: https://developer.apple.com/videos/play/fall2017/601/

And also reviewed portions of these docs, which include a sample project that we'll check out: https://developer.apple.com/documentation/arkit/creating face based ar experiences

It's pretty much as advertised in their docs.

Vlad was involved in defining some of the 50-ish facial blend shapes that are available within the API, through previous work with the FaceShift. So he felt comfortable that the tech could drive a character using a 3Lat rig, although not at the same fidelity as a more detailed Cubic-style capture.

JJ followed up and asked for iPhoneX hardware, but as of yet they haven't located any for us.

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Next steps are for us to discuss internally and work out when we could start on integration, whether this should be via Live Link, and better scope out the project.

John Jack (JJ) Lead Producer, Special Projects

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Kim Libreri, CTO



https://epicgames.com/

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John Jack (JJ) Lead Producer, Special Projects