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Facebook designed and built a durable, high-quality 3D-360 video capture system—and they are sharing it.

Why? Facebook wants to create a pro end-to-end system to capture, edit, and render high-quality 3D-360 video. They expect this contributes to the emerging 3D-360 camera landscape **by enabling more VR content producers and artists to produce 3D-360 video.**

Because VR is all about content.

The open-source system includes a design for camera hardware and the accompanying stitching code-- and both are available on GitHub this summer. **Developers can leverage the Facebook designs and code-- and content creators can use the camera in their productions.**

As expected with Facebook, the product is distinguished by its algorithms. Building on top of an optical flow algorithm is a mathematically rigorous approach that Facebook uses to produce “superior results.” Their code uses optical flow to compute left-right eye stereo disparity, leveraging this ability to generate seamless stereoscopic 360 panoramas, with little to no hand

intervention. The stitching code drastically reduces post-production time. What is usually done by hand can now be done by algorithm, taking the stitching time from weeks to overnight.

The system exports 4K, 6K, and 8K video for each eye. The 8K videos double industry standard output and can be played on Gear VR with Facebook's custom Dynamic Streaming technology.

Facebook says, “When we started this project, all the existing 3D-360 video cameras we saw were either proprietary (so the community could not access those designs), available only by special request, or fundamentally unreliable as an end-to-end system in a production environment. In most cases, the cameras in these systems would overheat, the rigs weren't sturdy enough to mount to production gear, and the stitching would take a prohibitively long time because it had to be done by hand.”

“So we set out to design and build a 3D-360 video camera that did what you'd expect an everyday camera to do — capture, edit, and render reliably every time. That sounds obvious and almost silly, but it turned out to be a technically daunting challenge for 3D-360 video.”

Watch A Short Film on Facebook’s 3D 360 VideoCapture System

Go An Open 3D-360 Video Capture System that Facebook Wants to Share with You